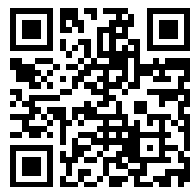

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**Annual Workshop on
Formal Approaches
to Slavic Linguistics**

The Toronto Meeting
2006

edited by
Richard Compton
Magdalena Goledzinowska
Ulyana Savchenko

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Preface

Many individuals and organizations contributed to the success of *FASL 15*. Aside from the stimulating presentations and a great audience, we also had fun! We would like to acknowledge the generosity of everyone who participated in coordinating the meeting and the proceedings.

The conference was organized by Magdalena Goledzinowska and Diane Massam from the Department of Linguistics and Christina Kramer from the Department of Slavic Languages and Literatures. Ulyana Savchenko shared in the administrative responsibilities and Richard Compton designed and maintained the website at www.chass.utoronto.ca/fas15/.

The following organizations provided generous financial support for the conference: the Social Sciences and Humanities Research Council of Canada, the Faculty of Arts and Science at the University of Toronto, the Slavic and East European Language Resource Center at the University of North Carolina at Chapel Hill and Duke University, St. Vladimir Institute in Toronto, the Radovan I. Matanić Bookstore in Toronto, Erudit Russian Books in Toronto, the Department of Linguistics and the Department of Slavic Languages and Literatures at the University of Toronto.

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FASL 15 could not have happened without the time and energy of our student volunteers. A big thank you goes to Michael Barrie, Sandhya Chari, Sarah Clarke, Benjamin Flight, Chiara Frigeni, Amanda Greber, Catherine Macdonald, Vladislav Malik, Vanessa Shokeir and Tanya Slavin.

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We received 70 abstracts and accepted 28 for presentation, along with three invited talks.

We would like to gratefully acknowledge our reviewers who contributed their time and expertise to both the abstract selection process and the review of the submitted papers. They are: Gabriela Alboiu, John Alderete, Olga Arnaudova, Maria Babyonshev, John Frederick Bailyn, Michael Barrie, Christina Bethin, Loren Billings, Željko Bošković, Wayles Browne, Barbara Citko, Elizabeth Cowper, Catherine Crosswhite, M. Cristina Cuervo, Elan Dresher, Katarzyna Dziwirek, Hana Filip, Frank Gladney, Lydia Grebenyova, Peter Hallman, Stephanie Harves, Tania Ionin, Michela Ippolito, Darya Kavitskaya, Alexei Kochetov, James Lavine, Ora Matushansky, Krzysztof Migdalski, Roumyana Pancheva, Barbara Partee, Asya Pereltsvaig, Maria Polinsky, Gilbert Rappaport, Milan Rezáč, Keren Rice, Susan Rothstein, Catherine Rudin, Irina Sekerina, Mila Tasseva-Kurktchieva, Sergei Tatevosov and Edwin Williams. The contribution of the reviewers was invaluable.

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Finally, we would like to thank Jindřich Toman and Rachelle Grubb from Michigan Slavic Publications for handling the printing process and their advice on editing the volume.

With our best wishes,

The Editors,
Richard Compton
Magdalena Goledzinowska
Ulyana Savchenko

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Toronto, Canada

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Clitic Reduplication in Bulgarian: Towards a Unified Account*

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In this paper, we argue that clitic reduplication in Bulgarian (often referred to as ‘clitic doubling’ and considered to be a unitary phenomenon) is not optional or linked exclusively to topicality and specificity, as previously claimed, and that there is a need for empirical, structural, and conceptual re-analysis of the conditions that license this phenomenon. More precisely, we argue that Bulgarian possesses a genuine Clitic Doubling (CD) construction, which exhibits many of the properties of its Romance counterpart with the difference that in Bulgarian CD is found predominately with Experiencer predicates, as illustrated in (1):

- (1) a. Ivan *(go) boli gârloto.
 Ivan him_{CLACC} aches throat_{DEF} ‘Ivan’s throat aches’
 b. Na Ivan *(mu) xaresa filmât.
 to Ivan him_{CLDAT} liked film_{DEF} ‘Ivan liked the film’
 (lit. ‘The movie appealed to Ivan Ivan’)

* Note that the title of the paper contains the preposition *towards*. This means that we will not be aiming at actually arriving at a unified analysis of what we here call *clitic reduplication*. Rather, we will posit the more modest and empirically motivated goal of carefully distinguishing several clitic reduplication constructions, which are generally lumped together in the already quite vast literature on this topic in Bulgarian. We thank the audience of FASL 15 and the reviewers for their helpful comments.

Following an already quite solid tradition in the generative literature (Belletti and Rizzi 1988, Anagnostopoulou 1999, among others), we show that the Experiencer argument, whether dative (prepositional) or accusative, displays subject-like properties and hence qualifies as a *quirky subject*. We also provide ample evidence that Experiencer objects, unlike topicalized/dislocated constituents which are located in some A'-position within the CP domain, seem to occupy an IP/TP-internal A-position. We consider this to be an important step towards teasing apart genuine clitic doubling as illustrated in (1) from other superficially similar constructions involving doubling clitics, such as the Topic/dislocation constructions shown in (2):

- (2) a. Na Maria ne sâm j kazval ništo.
 to Maria NEG Aux her_{CL.Acc} told nothing
 lit. 'To Mary, I have not told her anything.'
- b. Ne sâm j kazval ništo na Maria
 NEG Aux her_{CL.Acc} told nothing to Maria
 lit. 'I have not told her anything, to Mary.'

1 Preliminary Discussion

In the literature on Bulgarian, 'clitic doubling' has been associated with various features such as Case disambiguation and marked word order (Nicolova 1986:55, Popov 1962), definiteness (Cyxun 1962, Ivančev 1978), specificity (Avgustinova 1997: 92-95), Topicality (Leafgren 1997, Guéntcheva 1994), emphasis (Rudin 1986: 17-18), and argument saturation (Arnaudova 2002). (Compare also the discussion in Jaeger and Gerassimova 2002.) More recently, it has become clear that no single feature can be held responsible for the vast range of reduplication environments, and it has been proposed that the phenomenon relies rather on some combination of features such as specificity and topicality (as in e.g., Tomić 2000, cf. also Franks & King 2000), or Topicality and Case (Schick 2000). Different proposals outline how these two features can be tied up either to Case checking by the clitic within the clause (Rudin 1997, Tomić 2000, Franks & Rudin 2005), or to discourse factors involving (sometimes) a separate Topic projection (e.g. Rudin 1986).

Question-answer pairs of the type in (3)-(4) show, however, that with Experiencer predicates the associate of the clitic can be focused, since it

can serve as an answer to a *wh*-question. This would be unexpected under a view that reduplication is exclusively linked to topicality.

(3) Na kogo *(mu) stana žal?
to whom him_{CL.Dat} got_{3SG} pity
'Who felt sorry?'

(4) [_F Na deteto] *(mu) stana žal. / Stana *(mu) žal [_F na deteto].
to child_{DEF} him_{CL.Dat} got_{3SG} pity / got_{3SG} him_{CL.Dat} pity to child_{DEF}
'The child felt sorry.'

In addition, it can easily be seen that specificity and topicality are sufficient but not necessary conditions on doubling, since firstly, postverbal definite or indefinite specific constituents are often not reduplicated, cf (5):

(5) Maria šte zanese kufara/edin kufar.
Maria will bring suitcase_{DEF} /one suitcase
'Maria will bring the suitcase/one suitcase.'

and secondly, although reduplication is more frequent in the preverbal domain, it is not the case that all preverbal (definite) Topic elements need to be reduplicated, cf. (8), and Krapova (2002), Arnaudova (2002, 2003):

(6) Kufara šte donese Maria.
suitcase_{DEF} will bring_{3SG} Mary
lit. 'The suitcase, Mary will bring.'

Additionally, there are a number of left-right asymmetries that need to be taken into account. For example, reduplication of indefinites seems prohibited or highly marginal in the postverbal domain, regardless of intonation, while it is perfectly possible, and sometimes preferable, in the preverbal domain. This is illustrated in the following pairs of examples, featuring the indefinite marker 'edin' (7), distributive phrases (8), and quantified phrases (9). ((7) and (9) are taken from Asenova 2002: 114):

(7) a. **Edna prikazka ja** razkazvaše vsjaka večer.
one story it_{CL.Acc} was telling every evening
lit. 'One story he/she was telling it every evening.'

- b. * Razkazvaše **ja** **edna prikazka** vsjaka večer..
 was telling it_{CL.Acc} a/one fairy tale every evening
- (8) a. **Na vseki** **šte** **mu** **napiša** **pismo**.
 to everyone will him_{CL.Dat} write_{1SG} letter
 lit. 'To everyone, I will write him a letter.'
- b. ?? **Šte** **mu** **napiša** **pismo** **na vseki**
 will him_{CL.Dat} write_{1SG} letter to everyone
- (9) a. **Pet glarusa** **kak da** **gi** **nasitja** **s** **xljab**
 five seagulls how MOD them_{CL.Acc} feed up_{1SG} with bread
i **sirene?**
 and cheese
 lit. 'Five seagulls, how should I feed them up with bread and
 cheese?!'
- b. * **Kak da** **gi** **nasitja** **s** **xljab** **i** **sirene** **pet**
 how MOD them_{CL.Acc} feed up_{1SG} with bread and cheese five
glarusa?
 seagulls

What we want to show in the next section is that Bulgarian possesses a genuine clitic doubling construction with well-defined properties, as can be inferred by a number of tests. This construction is to be strictly distinguished from Topicalization/dislocation constructions, also involving a clitic. Following again plausible comparisons with Romance, we reserve for the latter the terms CLLD (Clitic left dislocation) and CLRD (Clitic right dislocation), which reflect the position of the reduplicated element in the left or the right periphery, respectively (cf. Cinque 1990, Rizzi 1997, Samek-Lodovici 2005, Arnaudova 2002, Krapova 2002).

2 Genuine Clitic Doubling: Classes of Predicates Requiring Obligatory Doubling

In contrast with Romance, and similar to Modern Greek (Anagnostopoulou 1999), Bulgarian CD is found predominantly although not exclusively with Experiencer predicates belonging to class 2 (*preoccupare-frighten*) and to class 3 (*piacere-appeal to*) of Belletti and Rizzi's (1988) original classification of psych constructions. Most

Bulgarian Experiencer predicates seem to belong to class 3, but there are also quite a few in class 2.¹ The two types are illustrated in (10) and (11) which also show that in both of them reduplication of the Experiencer is obligatory²:

¹ For the sake of convenience, in this paper we will not distinguish between the various types of psych constructions. A full list of these predicates which include verbs, non-agreeing adjectives and nouns, is provided in Krapova and Cinque (to appear). Here we limit ourselves to some representative examples:

A) Psych and physical perception predicates with Dative Experiencers:

a) Verbs: *xaresva mi* 'it appeals to me', *domáčnjava mi* 'I feel sad', *lipsva mi* 'I miss', *dosažda mi* 'it bothers me', *doskučava mi* 'I feel bored', *xrumva mi* 'it occurs to me', *prilošava mi* 'feel faint', etc. (Rožnovskaya 1959: 413; 1971, 229-230; Manolova 1979: 147).

b) Adjectives: *skučen/skučno mi e* 'I find him/it boring', *máčen mi e* 'I find it difficult', etc. *lošo mi e* 'I feel faint', *studeno mi e* 'I am cold', *toplo mi e* 'I am hot', etc. (Maslov 1982: 291-292);

c) Adverbs: *dobre mi e* 'I feel good' (lit. 'well to me is'), *zle mi e* 'I feel bad', etc.

d) Nouns: *žal mi e* 'I feel sorry' (lit. 'pity to me is'), etc.

B) Psych and physical perception predicates with Accusative experiences:

a) Verbs: *mărzi me/ domărzjava me* 'I feel lazy', *trese me* 'I am feverish', etc.

b) Nouns: *jad me e* 'I am mad', *sram me e* 'I am ashamed', *strax me e*, 'I am afraid' etc.

C) Psych predicates with (inalienable) possessor Datives: *olekva mi* (na sârceto) 'my heart lightens; I feel relief', etc.

D) Psych predicates with (inalienable) possessor Accusatives: *boli me* (glavata) 'my head is aching', *sviva me* (sârceto) 'my heart is aching', *probožda me* 'I have a shooting pain', etc.

E) Predicates in the *feel-like* construction:

a) *spi mi se* 'I feel like sleeping'; *pie mi se* 'I feel like drinking', etc.

b) *idva mi da* 'I almost feel like/I have the urge', *pisna mi da* 'I am sick of'.

² This applies to the predicates listed in fn. 1 which are all stative and which will be the focus of our attention. Class 2 predicates contain also transitive verbs, as in (i) below, but they will not be discussed here. Interestingly, such predicates receive a stative or an agentive interpretation (cf. Slabakova 1996), and reduplication seems to be sensitive to the position of the Experiencer:

(i) a. Filmât podrazni/jadosa/razvâlnuva/užasi **Ivan**.

film_{DEF} irritated/angered/moved/horrified Ivan

'The film irritated/made angry/moved/horrified Ivan'

- (10) Ivan *(go) boli/ sârbi/ štipe gârloto. class 2
 Ivan him_{CL.ACC} ache_{3SG}/itch_{3SG}/pinch_{3SG} throat_{DEF}
 ‘Ivan’s throat aches/itches/pinches’
- (11) Na Ivan *(mu) xaresa/ doskuća filmât. class 3
 to Ivan him_{CL.DAT} liked_{3SG}/bored_{3SG} film_{DEF}
 ‘Ivan liked/was bored by the film’
 (lit. ‘The movie appealed to Ivan’/‘The movie bored Ivan’)

As noted in Slabakova (1996), the two classes of Experiencer predicates have a common thematic structure, involving a Cause of the Emotion/Theme syntactically realized as Nominative (hence a Nominative Theme), and differ in the Case realization of the Experiencer (the Recipient of the Emotion), which with class 2 verbs is syntactically realized as an accusative object, cf. (13), but with class 3 verbs as a dative (prepositional) object, cf. (14).³

Following an already quite solid tradition in the generative literature (Belletti and Rizzi 1988, Anagnostopoulou 1999, among others), we show below that the Experiencer argument, whether dative or accusative, displays subject-like properties and hence qualifies as a *quirky subject*. It is precisely this structural property of the Experiencer that we want to correlate with obligatory CD and in order to do that, we will first review some arguments which show that Experiencer objects are not dislocated constituents in an A'-position, but rather seem to occupy an IP/TP-internal A-position.

2.1. Dative Experiencers

In this subsection, we consider the syntactic behaviour of Dative Experiencers. In the next subsection (2.2), we show briefly that the conclusions reached here fully apply to Accusative Experiencers as well.

Consider first word order facts and recall the left-right asymmetry

-
- b. Ivan *(go) podrazni/jadosa/razvâlnuva/užasi filmât.
 Ivan him_{CL.ACC} irritated/angered/moved/horrified film_{DEF}
 ‘Ivan got irritated/angry/moved/shocked by the film’

³ A number of additional class-internal differences have to do with the presence vs. absence of an overt Theme, as well as with the types of Theme (e.g., PPs) and their exact semantic import, but since such details are beyond the scope of the paper, we will leave them aside.

noted in (7)-(9) above with respect to topicalized constituents. No such asymmetry is found in the Experiencer construction. In fact, the construction is completely reversible, as shown in (12a-b): either the Theme or the Experiencer can be preposed, the order in (12a) being the unmarked order.

(12) *Exp DAT -V-Theme NOM*

- a. Na Ivan mu omrâzvat/xaresvat filmite.⁴
 to Ivan him_{CL.DAT} bore_{3PL}/appeal_{3PL} films_{DEF}
Theme NOM-V-Exp DAT
- b. Filmite mu omrâzvat/xaresvat na Ivan.
 films_{DEF} him_{CL.DAT} bore_{3PL} / appeal_{3PL} to Ivan
 'Films bore/appeal to Ivan.'

A second piece of evidence for treating Experiencer Datives as filling a position distinct from that of topicalized datives comes from the fact that in Bulgarian, as in other languages (e.g., Italian, Belletti and Rizzi 1988: 337, and Modern Greek, Anagnostopoulou 1999: 69) there are contexts where Experiencer fronting is perfectly fine, while fronting of a dative object of a transitive verb, which is an instance of left dislocation, is quite marginal. Two such cases are provided by the adverbial and the relative clauses illustrated below.

- (13) ?? Vsički se pritesnixa, zaštoto na Ivan (mu) pomaga Petar.
 all got worried because to Ivan him_{CL.DAT} help_{3SG} Peter
 'Everybody got worried because Peter was helping Ivan.'
- (14) Vsički se pritesnixa, zaštoto na Ivan mu dopada lingvistikata.
 all got worried because to Ivan him_{CL.DAT} appeal_{3SG} linguistics_{DEF}
 'Everybody got worried because Ivan likes linguistics.'
- (15) Vsički se pritesnixa, zaštoto Ivan predpočita lingvistikata.
 all got worried because Ivan prefer_{3SG} linguistics_{DEF}
 'Everybody got worried because Ivan prefers linguistics.'

⁴ Note that the Nominative Theme need not be definite, and can be also indefinite (specific or not), or bare. Cf. (i):

- (i) a. Na Ivan mu xaresvat edni filmi (za vojната) /filmi
 to Ivan him_{CL.DAT} appeal_{3PL} some films about war_{DEF} / films
 b. Edni filmi (za vojната) mu xaresvat na Ivan.
 some films about war_{DEF} him_{CL.DAT} appeal_{3PL} to Ivan

- (16) ?? Knigite, deto na Ivan (mu) dadox, na men sa mi skučni.
 books_{DEF} that to Ivan him_{CLDAT} gave_{1SG} to me are me_{CLDAT} boring
 ‘The books I gave Ivan are boring for me.’
- (17) Knigite, deto na Ivan mu xaresvat, na men sa mi skučni.
 books_{DEF} that to Ivan him_{CLDAT} appeal_{3PL} to me are me_{CLDAT} boring
 ‘The books Ivan likes are boring for me.’
- (18) Knigite, deto Ivan čete, na men sa mi skučni.
 books_{DEF} that Ivan read_{3SG} to me are me_{CLDAT} boring
 ‘The books Ivan is reading are boring for me.’

As seen above, Dative Experiencers in (14) and (17) pattern with structural subjects in (15)-(18), and not with dislocated phrases, (13)-(16). According to Belletti and Rizzi (1988), the degraded status of examples like (13) and (16) is due to a discourse-motivated difficulty of topicalizing the indirect object in *because*-clauses, and of extracting some other phrase across it in relative clauses.

Next, consider the co-occurrence of bare quantifiers and indefinites with clitic structures. There is a sharp difference in grammaticality between left-dislocating and Experiencer fronting of a negative quantifier, as the contrast in (19) shows. The same holds for other bare quantifiers like the indefinite *njakoj* ‘someone’, *edin* ‘one’, etc. (not shown here):

- (19) a. *Na nikogo ne sâm mu pisal.⁵ CLLD
 to nobody NEG am him_{CLDAT} written
 ‘To nobody have I written.’
- b. Na nikogo ne mu xaresa pismoto mi. Exp
 to nobody NEG him_{CLDAT} appealed_{3SG} letter_{DEF} my
 ‘Nobody liked my letter.’

(19a) is hardly surprising given the robust cross-linguistic restriction on quantifiers to function as topics and consequently, to appear in the Clitic Left Dislocation construction. Interestingly, if the quantifier is an Experiencer object, no restriction shows up, which once again points towards its non-dislocated clause-internal status.

Perhaps the strongest argument for (quirky) subjecthood of Experi-

⁵ As expected, the example becomes grammatical when the clitic is removed, since in this case the DP is focus-moved and as is well-known, focus is compatible with quantifiers.

encers comes from Control (Legendre & Akimova 1994: 290 for Russian, Anagnostopoulou 1999: 70 for Greek, Landau 2003: 84-90 for Japanese referring to Perlmutter 1984, and French, among others).

Bulgarian possesses non-agreeing (in person features) adjunct and gerundive constructions, which are perhaps one of the very few instances of Control structures in that language.

- (20) a. [PRO_{i/*j} veče razbral istinata], Ivan_i samo podade telegramata
 already learned_{PRT} truth_{DEF} Ivan only handed_{3SG} telegram_{DEF}
 na Petăr_j i pro_i vednaga pripadna_i.
 to Petăr and immediately fainted_{3SG}.

‘Now that he has learned the truth, Ivan just handed the telegram to Peter and fainted immediately.’

- b. [PRO_{i/*j} vlizajki v stajata], Ivan_i samo podade telegramata
 entering_{GER} into room_{DEF} Ivan only handed_{3SG} telegram_{DEF}
 na Petăr_j i pro_i pripadna.
 to Petăr and fainted_{3SG}

‘Upon entering the room, Ivan just handed the telegram to Peter and then fainted.’

- (21) a. [PRO_{i/*j} veče razbral istinata], na Petăr_j Ivan_i samo
 already learned_{PRT} truth_{DEF} to Peter Ivan only
 mu podade telegramata. i pro_i pripadna.
 him_{CLDat} handed_{3SG} telegram_{DEF} and fainted_{3SG}

- b. ?[PRO_{i/*j} vlizajki v stajata], na Petăr_i Ivan_j samo mu
 entering_{GER} into room_{DEF} to Peter Ivan only him_{CLDAT}
 podade telegramata i pro_i vednaga pripadna.
 handed_{3SG} telegram_{DEF} and immediately fainted_{3SG}

- (22) a. [PRO_{i/*j} veče razbral istinata za nego], na Ivan_i započna
 already learned_{PRT} truth_{DEF} about him to Ivan began_{3SG}
 vse poveče da mu dopad Petăr_j.
 still more MOD him_{CLDAT} appeal_{3SG} Peter

‘Now that he has learned the truth about him, Ivan began liking Peter more and more.’

- b. [PRO_{i/*j} besedvajki pootdelno s kandidatite], na Ivan_i
 conversing_{GER} separately with candidates_{DEF} to Ivan
 naj-mnogo ot vsički mu dopadna Petăr_j
 most of all him_{CLDAT} appealed_{3SG} Peter.
 ‘Having talked to each of the candidates, Ivan liked Peter most of all.’

(20a&b) show that in regular transitive sentences, the matrix subject but not the matrix indirect object may control the adjunct/gerundive clause. This difference persists when the indirect object is left-dislocated (21a&b). By contrast, Dative Experiencers, similarly to structural subjects, can act as controllers, (22). Nominative Themes, on the other hand, seem to be impossible controllers, regardless of their surface position, and hence seem to behave like structural objects.⁶

2.2 Accusative Experiencers

Recall that Bulgarian also possesses Accusative Experiencers and belongs to the class of languages (Modern Greek, Icelandic, Faroese) in which Experiencers can appear in any case (Landau 2003: 77). If we apply the tests to Accusative Experiencers, i.e. to Experiencers in psych constructions with accusative clitics, we get practically the same results as with Dative Experiencers. The cluster of properties illustrated below lead us to consider Accusative Experiencers as *quirky* subjects.

⁶ This peculiarity of Bulgarian seems to be shared by Greek (as can be seen by the data in Anagnostopoulou 1999), but not by other languages, like Italian, Japanese (Perlmutter 1984) and French (Landau 2003: 87-9), where both the Dative Experiencer, and the Nominative subject (the Theme) can act as controllers, especially when participle agreement in the adjunct clause forces choice of controller. In Bulgarian, manipulating participle agreement and changing the Nominative Theme to match with the participle in gender does not bring about a change in Control possibilities and produces ungrammaticality.

- (i) * [PRO_j veče razbrala istinata za nego], na Ivan započna vse poveče
 already learned_{PRTFEM} truth_{DEF} about him to Ivan began_{3SG} still more
 da mu dopada Marija_j
 MOD him_{CLDAT} appeal_{3SG} Mary

Word order: AccExp -V- Theme NOM and Theme Nom -V- AccExp

- (23) a. Petârčo go boli gârloto/gârlo.
 Little Peter him_{CL.Dat} ache_{3SG} throat_{DEF}/throat
 b. Gârloto/gârlo go boli Petârčo.
 throat_{DEF}/throat him_{CL.Dat} ache_{3SG} Little Peter
 ‘Little Peter has a sore throat’

Accusative Experiencers vs CLLD

- (24) a. ??Vsički se pritesnixa, zaštoto Marija ja sreštnal Ivan.
 everybody worried because Mary her_{CL.Acc} met_{Evid.} Ivan.
 lit. ‘Everybody got worried because [they say] Mary, Ivan met her’
 b. Vsički se pritesnili, zaštoto Marija ja zaboljal
 everybody worried_{Evid} because Mary her_{CL.Acc} started-to-ache_{Evid}
 koremât.
 stomach_{DEF}
 ‘Everybody got worried because [they say] Mary got a stomach ache’

- (25) a. ??Onezi, deto Ivan (go) čakat, sa negovite studenti.
 those that Ivan him_{CLACC} wait_{3PL} are his_{DEF} students
 ‘Those [people] that are waiting for Ivan are his students’
 b. Onova, deto Ivan go boli naj-mnogo, e dušata.
 that that Ivan him_{CL.Acc} ache_{3SG} most is soul_{DEF}
 ‘What hurts Ivan most is his soul.’

Accusative Experiencers and bare quantifiers/indefinites are fine:

- (26) a. *Nikogo ne go sreštnax po pătja nasam. CLLD
 nobody NEG him_{CLACC} met_{1SG} on way_{DEF} here
 ‘I met noone on my way here’
 b. *Njakogo go sreštnax po pătja nasam.
 someone him_{CLACC} met_{1SG} on way_{DEF} here
 ‘I met someone on my way here’
- (27) a. Nikogo ne go boli glavata. Exp
 nobody NEG him_{CLACC} ache_{3SG} head_{DEF}
 ‘Nobody has a headache’
 b. Njakogo maj go boli glavata.
 somebody perhaps him_{CLACC} ache_{1SG} head_{DEF}
 ‘Perhaps someone has a headache.’

Control

(28) a. PRO_{i/*j} vli_{zajki} v stajata, Ivan_i samo pogledna Petâr_j
 entering_{GER} into room_{DEF} Ivan only looked_{3SG} Peter

i pro_i pripadna
 and fainted_{3SG}

‘Upon entering the room, Ivan only took a glance at Peter and fainted’

b. PRO_{i/*j} veče razbral istinata, Ivan_i go xvana jad
 already learned_{PRT} truth_{DEF} Ivan him_{CLACC} got_{3SG} angry
 na Petâr_j.⁷
 at Peter

‘Now that he has learned the truth, Ivan got angry at Peter’

c. ?PRO veče razbral_{i/j} istinata, Ivan_i Petâr_j reši
 already learned_{PRT} truth_{DEF} Ivan Peter decided_{3SG}

pro_i da go uvolni.
 MOD him_{CL.ACC} fire_{3SG}

‘Now that he has learned the truth, Peter decided to fire Ivan.’

Given the set of examples (23)-(28), it becomes highly plausible to analyze Accusative Experiencers in Bulgarian in a manner analogous to that of Dative Experiencers, i.e. as quirky or inherent subjects, rather than as structural objects.⁸ In order to capture the parallel behaviour between Datives and Accusatives, various authors have proposed that the latter, too, are PPs but with a silent preposition, thus collapsing the two types under a single structure. Without argumentation, in what follows, we will treat Dative and Accusative Experiencers in Bulgarian as a single class from a syntactic point of view. We have seen so far that both types pass successfully the above discussed (and other) tests for subjecthood and are thus true *quirky subjects*.

⁷ Since Accusative Experiencers in Bulgarian are incompatible with animate Nominative Themes, we have used a prepositional Theme in the example, which, trivially, makes the same point with respect to Control.

⁸ See also Rivero (2004: §4.1).

2.3 Experiencers Are in an A-position

Here, we want to give more specific evidence that Experiencer fronting targets an A-position and that, in terms of hierarchy, this position is higher than the standard subject position (Spec,TP) but lower than the A'-position which hosts left-dislocated (Top) elements.

Consider again the Control facts reviewed above and in particular, (21a&b) and (28b) which contain a left-dislocated dative and accusative, respectively. Given the widespread assumption that left-dislocated constituents occupy an A'-position (a separate TopP within the CP field or an IP/CP-adjoined position, cf. Rudin 1986, 1994, Lambova 2001, Arnaudova 2002, Krapova 2002, among others), the fact that they cannot control, while Experiencers *can* control, shows that the latter occupy an A-position (in accordance with standard views on Control as available only from A-positions). On the other hand, given that in passive and unaccusative contexts, internal objects raised to subject position *can* control (cf. (29) below and Moskovsky 2002: 129) in the absence of another possible controller, such as the Experiencer in a psych-construction, it is plausible to think that the position targeted by the Experiencer is higher than the standard subject position.

- (29) a. PRO_i edva vljazâl v stajata, Ivan_i beše zastreljan na mjesto.
 hardly entered in room_{DEF}, Ivan was shot to place
 ‘Having just entered the room, Ivan was shot dead.’
- b. PRO_i ostavajki vse taka bezučastno kâm trevogite na xorata,
 remaining still so indifferent towards worries_{DEF} of people_{DEF}
 slânceto_i zaleze kâm xorizonta.
 sun_{DEF} set_{3SG} towards horizon_{DEF}
 ‘Indifferent as it has always been towards the worries of the
 people, the sun set down over the horizon.’ (adapted from D.
 Dimov)

Before we proceed with the analysis, we give two additional facts to strengthen the proposal that the Experiencer is located in an A-position: anaphor binding and pronominal binding. The contrast in (30) shows that similarly to other languages (e.g., Russian, as discussed in Franks 1995: 253, Bailyn 2004: 22, among others) the Dative Experiencer, on a par with subjects, shows the potential to bind an anaphor, which directly

indicates an A-status. Failure to front the appropriate kind of constituent affects binding relations and produces ungrammaticality as a Principle A violation, cf. (30b):

- (30) a. Ivan go dojadja na sebe si.
 Ivan him_{CLACC} got-angry_{3SG} at himself
 ‘Ivan go angry with himself.’
 b. *Na sebe si go dojadja Ivan.⁹
 to himself him_{CLAcc} got-angry_{3SG} Ivan.

Finally, as (31) shows, the pronominal binding facts illustrate lack of WCO effects in the a. example, as opposed to the b. example, which once again indicates that the fronted Experiencer occupies an A-position:

- (31) a. ?Na vsjaka krasiva žena j xaresva nejnoto sobstveno kuče.
 to every beautiful woman her_{CLDAT} appeal_{3SG} her_{DEF} own dog
 ‘Every beautiful woman likes her own dog.’
 b. *Nejnoto sobstveno kuče j xaresva na vsjaka krasiva žena
 her_{DEF} own dog her_{CLDAT} appeal_{3SG} to every beautiful
 woman

Our conclusions from Bulgarian strongly support the analysis of non-agreeing subjects in other (Slavic) languages, according to which the preverbal non-Nominative Experiencer occupies an IP/TP-internal A-position. For some authors, this position is Spec,TP (Bailyn (2004), Lavine (2000), Lavine and Freidin (2002), i.e. the same position that hosts

⁹ A reflexive Nominative Theme would produce an ungrammatical example (i), given the general ban in Bulgarian on subject reflexives (Moskovsky 2002: 127). The minimal pair between (30a) and (i) below corresponds exactly to the one in Italian (ii), as observed by Rizzi (2000: 163) who subsumes the subject anaphor restriction under the more general ‘anaphor-agreement effect’ not reducible to the Binding Principle nor to the ECP: anaphors are incompatible with agreement construal.

- (i) *Na nego mu xaresva samo sebe si.
 to him_{Pron} him_{CL.Dat} appeals only himself
 (ii) a. A loro importa solo di se stessi.
 to them interests only P themselves
 b. *A loro interessano solo se stessi.
 to them interest only themselves

the canonical subject, while for others this position is a separate one, higher than the standard subject position in Spec,TP – Spec,L(ogical)P, as in Williams (2006) or Spec,SubjP (Subject-of-predication), in Cardinaletti (2004).¹⁰ We assume, for convenience, the latter proposal, and we emphasize our point that the Experiencer is in a TP-related position, i.e. *lower than the lowest CP position*, which, within a fine left periphery approach (Rizzi 1997), can be identified as FinP. See the hierarchy sketched in (32) and Cardinaletti (2004):

(32) TopP FocusP FinP...ExpSubjP/Non-NonSubjP TP... VP NomTheme
 C-domain T-domain V-domain

We also adopt what is common to a host of analyses, namely that Experiencer fronting is triggered by the need to check the EPP feature (Alexiadou & Anagnostopoulou 1998, Landau 2003, Bailyn 2004, among others), given that EPP can be satisfied by any overt XP movement and is no longer associated with Case (Chomsky 2000). Alternatively, Experiencer fronting could be related to some feature with semantic import related to the position targeted (like the Subj-of-Predication feature of Cardinaletti 2004). The Theme checks Nominative case and phi-features, which can be done from its postverbal position (within VP) via a chain with an expletive *pro* in Spec,TP, via covert movement (Chomsky 1995), or long-distance agreement (Chomsky 2000).

3 Back to Clitic Doubling

We take the following three properties as criteria for the presence of a CD construction in a given language.¹¹ First, the clitic is obligatory in the presence of the full DP, whether the latter is pre- or postverbal; second, the associate of the clitic can serve as new information and it can also be

¹⁰ Alternatively, within an approach that adopts multiple specifiers, as in Landau (2003), Experiencer can be said to move to a higher specifier of TP, overtly or at LF, depending on its surface position.

¹¹ Following Krapova and Cinque (to appear), who in turn follow much solid work on CD in Romance (Jaeggli 1982, 1986).

contrastively focused and wh-moved; and third, the clitic and the associate form one prosodic domain.¹²

Now, Experiencer objects satisfy all three requirements, while dislocation constructions do not. As mentioned before, the former must always appear clitic doubled and under no circumstances can the full DP stand alone (e.g. **Boli glavata Ivan/*Ivan boli glavata*). Quite different is the notion of *obligatoriness* of the clitic in the dislocation constructions, e.g. *Ivan vsicki *(go) poznavat* lit. 'Ivan all him know' / *Vsički (go) poznavat Ivan*).¹³ First of all, with postverbal DPs the clitic is not obligatory, and second, with preverbally fronted DPs, the presence of the clitic is epiphenomenal on the choice of the construction: if the object is not dislocated, it need not be doubled and can very well stand alone, as in *Vsički poznavat Ivan* 'Everybody knows Ivan'. In the Experiencer construction, on the other hand, the clitic *has* to be present irrespective of positional motivation, or intonation.

Next, consider the minimal pairs in (33), (34) and (35):

- (33) a. Kogo (*go) poznaváš?
 who him_{CL.Acc} know_{2P}
 b #Ivan go poznavam./Poznavam go Ivan.
 Ivan him_{CL.Acc} know_{1SG}/ know_{1SG} him_{CL.Acc} Ivan.
 lit. 'Ivan, him I know/I know him, Ivan'
- (34) a. Kogo go boli glavata?
 whom him_{CL.Acc} ache_{3SG} head_{DEF}?
 'Who has a headache?'

¹² Obligatoriness of the clitic (independently of the construction), and the ability of the associate to count as new information (bearing the nuclear stress of the sentence) seem bona fide diagnostics distinguishing CD from Clitic Right Dislocation. Thus, even if in some varieties of Spanish the associate of a doubling *accusative* clitic cannot be wh-moved, nor can it be a non-specific indefinite quantifier (see Jaeggli 1986: 39ff., and references cited there), it can always bear the nuclear stress of the sentence and hence be new information focus. Moreover, in all varieties of Spanish doubling is obligatory with pronominal direct and indirect objects (cf. Jaeggli 1982, 1986).

¹³ Strictly speaking, only with Clitic Left Dislocated *direct objects* is the resumptive clitic obligatory, as the contrast between *Ivan vsicki *(go) poznavat* 'Ivan all him know' vs. *Na Marija az mnogo sám (i) pomagal* 'To Mary, I have helped (her_{CLDAT}) a lot' shows. See Cinque (1990, §2.3.5) for a possible account of the corresponding contrast in Romance.

- b. Ivan go boli glavata. / Glavata go boli Ivan
 Ivan him_{CL.Acc} ache_{3SG} head_{DEF}/head_{DEF} him_{CL.Acc} ache Ivan
 'Ivan has a headache.'
- (35) a. *Poznavam go samo čoveka. CLRD
 know_{1P} him_{CL.Acc} only man_{DEF}
- b. Boli go glavata samo Ivan. CD
 hurt_{3SG} him_{CL.Acc} head_{DEF} only Ivan
 'Only Ivan has a headache.'

The Experiencer Subject appears as an answer to a wh-question (34b) and is compatible with focusing adverbs such as a *samo* 'only', *dori* 'even', and *i* 'also' (35b), i.e., Experiencer can carry new information or contrastive focus either in situ or as a result of movement. By contrast, in the right dislocation construction, as shown in (33b) and (35a), the reduplicated object cannot be focused since it cannot be used as an answer to a wh-question and cannot combine with focusing adverbs. Additionally, as the contrast between (33a) and (34a) shows, only Experiencer subjects must be wh-moved and clitic doubled at the time. The facts in (33)-(35) are well-known from the literature, but they now receive a different theoretic value in terms of our proposal.

Finally, in the CD construction the verb, the clitic and the associate form one prosodic domain, as illustrated in (36):¹⁴

- (36) Boli go **samo Ivan**]φ [glavata]φ

In the dislocation construction on the other hand, the dislocated constituent belongs to a different prosodic domain since stress is independently prevented from falling on it:

- (37) a. Poznavam go az, čoveka → [_F Poznavam go az]φ [čoveka]φ
 know_{1SG} him_{CL.Acc} I man_{DEF}
- b. Poznavam go, čoveka **az** → [_F Poznavam go]φ [čoveka]φ [_F az]φ
 know_{1SG} him_{CL.Acc} man_{DEF} I

The prosodic contrast between (36) and (37) is reminiscent of the

¹⁴ The subject, if present, cannot participate in the same domain, but is parsed as a separate prosodic unit and is necessarily de-stressed (right-dislocated).

situation in Romance languages, like Spanish and Catalan, which, like Bulgarian, have dislocation constructions alongside CD constructions. As pointed out by Jaeggli (1986) for Spanish, and by Vallduvì (1992) for Catalan, dislocated constituents in Romance are typically set off from the rest of the sentence with a sharp intonational break (Jaeggli 1986), and it has also been noted that they are always de-accented with the main stress/intonational peak (i.e. the focus of the sentence) falling on some previous constituent, typically the V-cluster (Vallduvì 1992, 96, 98):

- (38) La vaig VEURE la barilla. Catalan
 it_{1Sg.Past} see the fight
 'I SAW the fight /I did see the fight.'

As a result, such languages allow more than one dislocated phrase per clause, and in any order. Cf. (39), Zubizarreta (1998) for comparable cases in Spanish, Benincà (1988: 130ff.) for Italian, Philippaki-Warbuton et al. (2004) for Greek, and Arnaudova (2002, 2003) for Bulgarian:

- (39) a. DADOX mu go #pismoto #na Ivan.
 gave_{1SG} him_{CLDat} it_{CLAcc} letter_{DEF} to Ivan
 a' DADOX mu go #na Ivan #pismoto.
 gave_{1SG} him_{CLDat} it_{CLAcc} to Ivan letter_{DEF}

To summarize, we have used three criterial properties to test the presence of CD in the Experiencer object construction in Bulgarian and we have interpreted these properties as conditions on CD proper. We have also examined (briefly) other constructions that resemble CD only superficially, but in fact have been found to feature a Right dislocation analysis, given that they do not satisfy the conditions on CD proper.¹⁵

¹⁵ Although we have not discussed binding and licensing properties of RD, it seems that they clearly point to a clause-external analysis. According to the latter, dislocated constituents first move leftwards to the specifier of a topic projection TopP but are eventually stranded in rightmost position by leftward raising of the remnant IP, as in Samek-Lodovici (2005), who follows Cechetto (1999) who in turn follows Kayne (1995 Harvard class lectures).

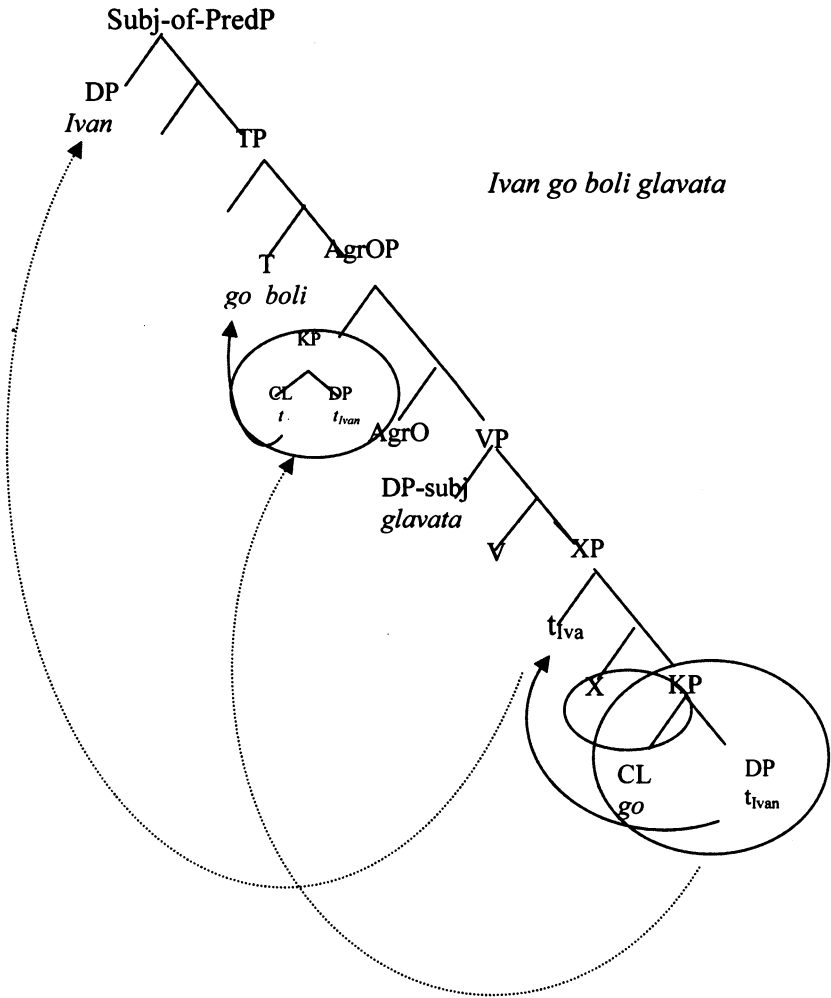
4 How Does the Clitic and Its Associate Get Together?

In this last part we briefly sketch our suggestion for a formal analysis of the derivation of clitic reduplication structures, that is, CD and dislocation structures. To analyze the facts reported in the previous sections, we adopt Franks and Rudin's (2005) proposal that clitics in Bulgarian require more structure and are KP elements with K as the head and the DP (whether an Experiencer object, or a constituent with some discourse-given property) as its complement (following in the steps of Uriagereka 1995 and Kayne 2002, cf. also Werkmann 2003 for a similar proposal). Postulating a KP as a sort of 'big DP' has the advantage of solving the theta problem since the entire KP is assigned a theta role.

(40) [_{KP} [_K^o cl] [_{DP}]]

However, in contrast to Franks and Rudin (2005), we follow Kayne (2005) in assuming that no movement of the complement of a head can target the specifier of that head, which means that for us the clitic does not have to pass through the specifier of KP, triggering agreement. Rather, as in Poletto 2006, we postulate an additional layer above KP (XP) which attracts the clitic's associate (the DP) and serves as an intermediate landing site on its way to its final destination – the Spec,Subject-of-PredicationP, in the Experiencer construction case (the CD proper, illustrated in (41) below for the sentence *Ivan go boli glavata* ('Ivan has a headache'), and to Spec,TopP position within the CP field, in the left-dislocation/ topicalization case (not shown here).

(41)



We also postulate that after extraction of the associate, the clitic moves up, although not as a head (pace Franks & Rudin 2005), but pied-piping the remnant KP containing the clitic and the trace of the raised associate. We tentatively propose that KP checks case in Spec AgrOP after which the clitic leaves KP and left-adjoins to the verb in T.¹⁶ The

¹⁶ For reasons of space we are not discussing here other proposals on clitic

derivation of Clitic Left Dislocation structures proceeds in a similar way, with the difference that DP targets the specifier of TopP, located in the CP domain.

To summarize, we have presented in this paper evidence that clitic reduplication in Bulgarian falls under two clearly defined cases with distinct properties: 1) Clitic Doubling in the Experiencer constructions (within the IP/TP domain) and 2) Clitic left and right dislocations (outside of the IP/TP domain). In our view, this new approach opens the door for a re-examination of the conditions that underlie clitic reduplication in Bulgarian and other languages and could be an important step towards an attempt of providing a unified account of the various clitic reduplication constructions in Bulgarian.

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movement and (left) adjunction to V in Bulgarian (e.g., Bošković 2002).

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A Derivational Approach to Microvariation in Slavic Binding

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1 Derivational Binding

Derivational approaches to Principle A of the Binding Theory have figured in the syntactic literature since at least Belletti & Rizzi (1988), in part based on arguments that binding configurations exist only before A-movement in certain constructions, such as (1) and (2):

- (1) a. **Each other's** mother seems to please **the two boys**.
b. [Pictures of **himself**] worry **John**.
- (2) Questi pettegolezzi su di sé preoccupano **Gianni**...
these pieces of gossip about himself worry Gianni

The derivational story holds that at an earlier stage of the derivation, a valid binding relation holds, as shown for (1b) in (3).¹

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¹ A reviewer points out that arguments have been raised against the Belletti & Rizzi analysis of psych-verbs, such as in Pesetsky 1987, 1995 (see also Cançado & Franchi 1999). Primary evidence is taken from constructions such as (i):

- (i) [Each others' supporters] made Kate and John angry

where an earlier stage of the derivation demonstrating c-command relations is presumably not available. Logophoric solutions in the spirit of Giorgi (1984) are usually appealed to in such instances, though Cançado & Franchi point out that those accounts overgenerate and cannot be the whole story either. Thus, the availability of constructions such as (i) does not in itself argue against a

(3) [VP [NP ... himself] John]

The assumption of derivational binding, in addition to being consistent with the attractive general program of derivational syntax advocated in Epstein et al (1998), also provides a straightforward explanation for the difference in behavior between raising (4a) and control (4b):

- (4) a. [Friends of **each other_i**] seemed [e to amuse **the men_i**].
 b.* [Friends of **each other_i**] wanted [PRO to amuse **the men_i**].

Conversely, derivational binding also allows us to feed (but not bleed) binding relations in languages with certain kinds of reordering or shifting operations, as in the Japanese scrambling examples (5) and (6) below:

- (5) a. **Karera-ga** [**otagai-no** sensei]-o hihansita (Japanese)
 they_{NOM} [each other's teacher]_{ACC} criticized SOV
 'They criticized each other's teachers'
- b.* [**Otagai-no** sensei]-ga **karera-o** hihansita SOV
 [each other's teacher]_{NOM} them_{ACC} criticized
 * 'Each other's teachers criticized them.'
- (6) a. [**Otagai-no** sensei]-o **karera-ga** ___ hihansita OVS
 [each other's teacher]_{ACC} they_{NOM} criticized
 'They criticized each other's teachers.'
- b.? **Karera-o** [**otagai-no** sensei]-ga ___ hihansita OVS
 them_{ACC} [each other's teacher]_{NOM} criticized
 'Them, each other's teachers criticized.'

If Principle A were an SS or LF phenomenon, the contrast in SOV orders (5) would be the same as the contrast in OSV orders (6). (5a) is well-formed. Raising the object to a local A-position (6a) (Miyagawa 2001 a.o) does not alter this successful binding. (6b), on the other hand, shows that the same object raising can feed a successful binding relation, absent in

derivational approach to (1-2), and logophoric approaches cannot explain the contrast in (4). Below, we see that many derivational binding effects exist independently of the proper analysis of psych-verbs. I begin with those examples here purely as a historical point of reference for this kind of analysis.

(5b). A similar effect is found with VP internal shifting in Russian:

- (7) a. Ivan predstavil **Petrovyx** **drug drugu** (Russian)
 Ivan introduced the Petrovs_{ACC} each other_{DAT} Acc-Dat
 ‘Ivan introduced the Petrovs to each other.’
- b. *Ivan predstavil **drug druga** **Petrovym** Acc-Dat
 Ivan introduced each other_{ACC} the Petrovs_{DAT}
- c. Ivan predstavil **Petrovym** **drug druga** ___ Dat-Acc
 Ivan introduced the Petrovs_{DAT} each other_{ACC}
- d. ?Ivan predstavil **drug drugu** **Petrovyx** ___ Dat-Acc
 Ivan introduced each other_{DAT} the Petrovs_{ACC}

If Principle A were an SS or LF phenomenon, the contrast between Acc>Dat orders in (7a) and (7b) would be that same as that between Dat>Acc orders (7c) and (7d). Derivational binding in (7c) saves (7b).^{2,3}

² (7) assumes a base order of Acc asymmetrically c-commanding Dat, as argued for in Bailyn 1995 and elsewhere. The asymmetry shown also argues against 2 base generated orders for Acc & Dat arguments (as vs. Miyagawa 1997).

³ Note, however, that the evidence shown in (1-8) does not in itself argue for a derivational approach to binding. In fact, as a reviewer points out, it is consistent with an LF approach to anaphor binding such as that of Fox & Nissenbaum (2004), assuming the availability of A-chain reconstruction. Indeed, the reviewer argues, sentences similar to (ii) (adapted from Chomsky 1995, with his judgments provided) seem to *require* an LF approach, if we assume LF composition of idiomatic elements such as *take pictures*:

- (ii) a. John wondered [which pictures of himself] Mary saw.
 b. *John wondered [which pictures of himself] Mary took.

(The actual Fox & Nissenbaum facts involve a different idiom, not *take pictures*, but rather *have an idea* following Heycock’s 1995 discussion of the idiomatic nature of verbs of creation.)

However, as pointed out by Zeljko Bošković (p.c.), the contrast, for those who have it, disappears under passivization:

- (iii) John wondered [which pictures of himself] were taken by Mary.

Thus the LF idiom-composition approach of Heycock and Fox & Nissenbaum cannot be the entire story on idiom composition, and the claim that (ii) supports an LF-only approach to anaphor binding is weakened. Further, the LF approach

For these reasons, it has often been argued that Principle A is an “everywhere principle,” calculated “on-line” in the course of the derivation. (8) provides 2 possible formulations.⁴

(8) a. Principle A of the Binding Theory can be satisfied at any point in the derivation. (Grewendorf & Sabel 1999: 13)

b. Information on the antecedent/binder of an anaphoric element is sent to semantics at any point of the derivation. (Saito 2005: 16)

(8) assumes a version of Principle A requiring A-binding – c-command in the local domain at some point in the derivation is not enough.⁵

Another strong piece of evidence in favor of a derivational approach to Principle A concerns the fact that anaphors, or expressions containing anaphors, that are A'-moved (and hence later undergo reconstruction), can nevertheless be successfully bound in the higher clause. This occurs both with English WH-movement (9) and Japanese Long Distance Scrambling (10).

(9) John_i wonders [which pictures of himself_i] Mary showed *t* to Susan.

cannot account for the availability of A'-driven bindees, given below.

⁴ I set aside derivational approaches to binding such as Kayne (2002) and Zwart (2002), in which the antecedent starts together with the anaphor and then moves away. Such approaches strongly predict the absence of Long Distance effects and are also incapable of capturing the Subject Condition (see below).

⁵ Japanese LD Scrambling and English Topicalization cannot feed Principle A because of the A' nature of the landing site:

(iv) a. ***Karera**-o_i [**otagai**-no sensei]-ga [[Tanaka-ga *t*_i
 them_{ACC} [each other's teacher]_{NOM} Tanaka_{NOM}
 hihansita] to itta
 criticized that said
 * 'Them_i, [each other's teachers] said that Tanaka criticized *t*_i.'

b. ***John**_i, pictures of **himself**_i describe *t*_i perfectly.

- (10) a. Taroo-ga_i [CP Hanako-ga_j [CP **Ziroo-ga_k zibunzisin-O_{*i/*j/k}**
 Taroo_{NOM} Hanako_{NOM} Ziroo_{NOM} self_{ACC}
 hihansita to] itta to] omotteiru (koto).
 criticized that said that think fact
 ‘Taroo_i thinks [that Hanako_j said [that Ziroo_k criticized self_{*i/*j/k}]]’
- b. **Taroo-ga_i [CP zibunzisin-O_{i/j/k} Hanako-ga_j [CP t’ Ziroo-ga_k t**
 Taroo_{NOM} self_{ACC} Hanako_{NOM} Ziroo_{NOM}
 hihansita to] itta to] omotteiru (koto).
 criticized that said that think fact
 ‘Taroo_i thinks [that self_{i/j/k} Hanako_j said [that Ziroo_k criticized t]].’

A similar effect is found with Russian LD-Scrambling, as shown by Antonenko (2006):

- (11) a. Ty_i xočeš, čtoby Saša_k našel [svoego_{*i/k} druga]?
 You_i want that Sasha_k find_{SUBJ} self_{*s*/i/k} friend
 ‘Do you want that Sasha find his friend?’
- b. Ty_i [svoego_{i/k} druga] xočeš, čtoby Saša_k našel t?
 You_i self_{s*/i/k} friend want that Sasha_k find_{SUBJ}
 ‘Do you want that Sasha find his/your friend?’

LD-scrambling is well-known to have no effect on interpretation (Saito’s 1992 “Radical Reconstruction” property) and is therefore generally accepted as a process whose effect is entirely undone at LF. Thus the availability of higher binders in (10b) and (11b) can only be accounted for by a derivational approach to Principle A.

We can therefore draw the interim conclusion that there is good evidence, from a range of languages, that a derivational version of Principle A is required. We next turn to a paradox created by this interim conclusion: a different set of binding facts seem to point to the need for an LF-only approach. The rest of this article is devoted to resolving this paradox.

2 LF Movement of Anaphors and the Binding Paradox

It is well-known that many monomorphemic anaphors allow “Long Distance” binding, whereby the antecedent can be found outside the local

clause, thereby apparently violating the locality requirement on anaphor binding. This is shown in (12a-b) for Russian and Chinese.

- (12) a. **General** poprosil polkovnika [**PRO** narisovat' **sebj**a].
 general_i requested colonel_k PRO_k to draw self_{i/k}
 'The general_i asked the colonel_k to draw himself_{i/k}.' (ambiguous)
- b. **Zhangsan** renwei **Lisi** zhidao **Wangwu** xihuan **ziji**.
 Zhangsan_i think Lisi_j know Wangwu_k like self_{i/j/k}
 'Zhangsan thinks Lisi knows Wangwu likes him/himself.'
 (3 ways ambiguous)

Typically, the data in (12) have been analyzed as resulting from LF movement of the anaphors in question to the highest functional category within the binding domain (IP/TP), as argued in Pica 1991, Cole & Sung 1994, a.o.⁶ This movement is covert, on such accounts, and can proceed into the higher domain if not blocked by independent elements, such as an indicative complementizer in languages such as Russian or Icelandic, or a subject carrying different phi-features from those of the lower domain, (the so-called Chinese blocking effects).

On such accounts, the distinct readings of (12) are related to distinct LF's after LF anaphor raising. LF application of Principle A in such languages predicts that only SpecT elements can be binders of such anaphors and therefore these accounts are strengthened by the well-known correlation between the availability of Long Distance anaphora and "subject-orientation" — the requirement whereby the antecedent of an anaphor must be a subject, something that does not hold, for example, in English (13), as vs. Russian (14a), or Serbo-Croatian (henceforth SC) (14b):

(13) John_i asked **Bill**_k about **himself**_{i/k}. (ambiguous)

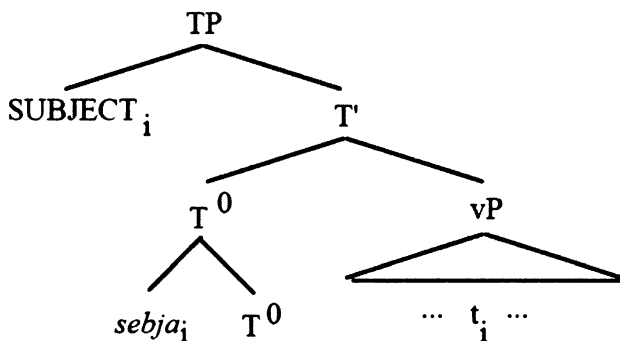
(14) a. **Ivan**_i sprosil Boris_a_k o **sebe**_{i/*k} (Rus)
 Ivan asked Boris about self
 'Ivan asked Boris about himself (Ivan).' (subject only)

⁶ Progovac (1992, 1993) argues for an Agree approach and against a movement account of subject orientation. It is not immediately clear, however, how her approach can capture the microvariation between Russian and Serbo-Croatian discussed in this paper. I therefore leave such approaches aside.

- b. **Jovan_i** je pitao **Nenada_k** o **sebi_{i/*k}** (SC)
 Jovan_{NOM} aux asked Nenad_{ACC} about self
 ‘Jovan asked Nenad about himself (Jovan).’ (subject only)

The relevant LF structure of (14) is given in (15).

(15) Schematic view of the Subject Condition: (LF)



Of course (15) is an LF structure – no overt movement of the anaphor occurs. Before LF movement, the English structure in (13) and the Slavic structures in (14) and (15) do not differ in any relevant way. Thus derivational binding, in either of the versions presented above in (8), predicts binding to be possible in (14-15) just as it is in English (13), indeed as soon as the object and anaphor are both present in the structure. LF movement is required to feed Long Distance readings, but crucially, the well-known correlation with object obviation (the Subject Condition) holds only if Principle A is an LF principle, holding after anaphor raising to T.

(16) The Binding Paradox:

- a. Principle A is an anywhere condition (examples 1-2, 4-7, 9-11)
- b. Principle A applies at LF only (examples 12, 13-14)

In what follows, I will show that we can capture the significant insights of both the derivational and LF raising accounts by using a system of overt feature movement (Move F) and by limiting derivational interpretation to elements with no remaining uninterpretable features.

3 Evidence for Configurational Binding

In Bailyn (2003, 2004a,b) I show that there is a wide range of possible binders for subject-oriented anaphors in Russian, as shown in (17-19). This is consistent with claims that local Scrambling is A-movement (Mahajan 1990, Miyagawa 1997, Lavine & Freiden 2001) allowing various non-Nominative binders to be available for such anaphors, but only when raised into the appropriate position.

(17) a. [U **Petrovyxi**] byl [svoji dom]. (Rus)
 at the Petrovs was [self's house]_{NOM}
 'The Petrovs had their own house.'

b. ???[Svoji dom] byl u **Petrovyxi**
 [self's house]_{NOM} was at the Petrovs
 'The Petrovs had their own house.'

(18) **Menja_i** tošnit ot svoeji raboty. (Rus)
 me_{ACC} nauseates from self's work
 'I am sickened by my work.'

(19) a. ?Eji nravilas' [svoja_i kvartira]. (Rus)
 she_{DAT} liked [self's apartment]_{NOM}
 'She liked her apartment.'

b. **Ivanu_i** nužen vrač_k dlja sebja_i/*k.
 Ivan_{DAT} necessary doctor_{NOM} for self
 'Ivan needs a doctor for himself.'

c. **Ivanu_i** xolodno v svoem_i dome.
 Ivan cold in self's house
 'Ivan is cold in his (own) house.'

(17) shows that [*u*+NP] possessives can bind, but only when raised to SpecT, as can Accusative objects of certain verbs (18), and various kinds of dative experiencers (19). That the relevant movement is A-movement is confirmed by correlation with other A-properties (Bailyn 2004a).

In contrast, Serbo-Croatian is more restricted in the extent to which its subject-oriented anaphors can be bound by non-Nominative antecedents.

SC allows no PP, Accusative or Dative binders equivalent to Russian (17-19). This is shown in (20-22).

- (20) ***[Kod menej]** je bila **svoja;** kuća. (SC)
 at me aux was [self's house]_{NOM}
 'I had my own house.'
- (21) ***Meni** se svidja **svoj** posao. (SC)
 me_{DAT} refl like [self's work]_{NOM}
 'I like my work.'
- (22) ***Jovanu;** treba doktor_k u **svojoj;** kući. (SC)
 Jovan_{DAT} necessary doctor_{NOM} in self's house
 'Jovan needs a doctor in his house.'
 (≠ *Jovan*; *doktor* ok for some speakers)

The clear contrast between the possibilities in Russian (17-19) and SC (20-22) is best accounted for by a structural theory of binding, since the meanings in the (often cognate) constructions are nearly identical, as is the word order. In many ways, given the subject condition, it is the Russian case that is unexpected. However, given the EPP analyses of such Russian cases, an avenue is opened to account for the microvariation in structural terms, by independently observable differences in the flexibility of the EPP requirement in T.

In particular, we have seen that in Russian, various non-Nominative elements can move to SpecT (= Generalized Inversion) (Bailyn 2004a). For Serbo-Croatian, on the other hand, we can hypothesize that pre-verbal non-nominatives are in A'-position, that is that SC allows little or no local A-Scrambling into SpecT. If this hypothesis is correct, we have an independent explanation for the Russian/SC microvariation that supports the configurational account of anaphor binding in both languages, and hence supports a movement to T analysis of subject-orientation.

Furthermore, there is independent evidence, from Weak Crossover, for the difference in pre-verbal subject position between Russian and preverbal non-Nominative elements. Bailyn 2004a, (see also Williams 2006) has shown that overt movement of object quantifiers across bound pronouns does not trigger a crossover violation. This is shown in (23-25).

- (23) a. * Eej sobaka ljubit každyju devočkuj. (Russian)
 [her dog]_{NOM} loves [every girl]_{ACC}
 'Herj dog loves every girlj.'

b. [Každuju devočku]_k ljubiti ee sobaka tk.
 [every girl]_{i ACC} loves [her_i dog]_{NOM}
 'Every girl is loved by her dog.'

(24) a. *[Ee_i sobaka] byla na rukax u [každoj devočki]_i.
 her dog_{NOM} was on arms at every girl
 'Her dog was in every girl's arms.'

b. ?U [každoj devočki]_i byla na rukax [ee_i sobaka].
 at every girl was in arms her dog_{NOM}
 'Every girl had her dog in her arms.'

(25) a. * [Ee sobaka] nužna [každoj devočke]_i.
 her dog_{NOM} needs every girl_{DAT}
 'Her_i dog is needed by every girl_i.'

b. [Každoj devočke]_i nužna [ee sobaka].
 every girl_{DAT} needs her dog_{NOM}
 'Every girl_i needs her_i dog.'

In each of the Russian examples (23-25), the (a) sentence is ill-formed because of covert QR (as in English equivalents). However exactly those structures that allow binding by non-nominatives obviate weak crossover in the (b) sentences. The prediction, then, is that SC will not show the same degree of obviation. (26) shows that this appears to be the case.

(26) a. *Njena_i mačka voli svaku devojkuj. (SC)
 [her_i cat_{NOM}] loves [every girl]_{i ACC}
 'Her_i cat loves every girl_i.'

b. ???Svaku devojkuj_k voli njena_i mačka.
 [every girl]_{k ACC} loves [her_k dog]-_{NOM}
 'Every_i girl is loved by her_i dog.'

The overt moved quantifier in (26a) triggers the WCO effect just as QR does in (26a). If the contrast between (26b) and the (b) sentences in (23-25) is significant, we have strong confirmation for a configurational approach to subject-orientation and its microvariation, namely that the

SpecT position is targeted by some local movements, which coupled with covert movement of anaphors accounts for their subject orientation. However, this only strengthens the conflict between the LF account of Principle A needed for subject-orientation, and the derivational requirements we started with. In the next section, I will propose an approach to anaphor binding that allows aspects of both LF and derivational binding to be maintained.

4 Resolving the Binding Paradox

The paradox we have reached concerns the level of application of Principle A of the Binding Theory. On the one hand, anaphor binding must be derivational, or else we would have no explanation for examples such as English (1-2) and (4), Japanese (5-6) and (10) and Russian (7) and (11). In all of these cases, neither an SS application of Principle A nor an LF version would correctly capture the facts. In particular, the generally acknowledged reconstruction of A'-movement in (9-11) would not predict surface binding possibilities. Conversely, in (1-2) and (4-6), local A-movements that would be expected to bleed successful binding relations in any LF version of Principle A do not in fact do so. For all of these sentences, on standard assumptions about reconstruction, only a derivational approach succeeds.

On the other hand, a derivational approach does not appear able to explain subject orientation of Russian and Japanese anaphors, which can never be bound by local objects, despite the fact that a perfectly good binding configuration holds at an early stage in the derivation (before LF movement), which we have seen to be an acceptable state of affairs in other instances. Nevertheless, object binding is notoriously bad with monomorphemic anaphors, thus implicating application of Principle A only after LF movement has bled the environment for object binding.

The solution to the paradox is relatively simple: the "LF" movement required with monomorphemic anaphors must be an instance of **overt feature movement** (Move F – see Roberts 1998, Rudnitskaya 2000 a.o), so that it can interact with a *derivational* version of Principle A, given just below. Let us assume, therefore, that monomorphemic anaphors carry a certain uninterpretable feature [A] (Saito 2003, 2005), that must be eliminated by being in a local relation with [T]. (Something like this is required in all LF movement accounts. Here, however, the movement is overt). The Move F version of anaphor movement is given in (27):

(27) The Monomorphemic Anaphor Condition

- a. Monomorphemic anaphors have an (independent) requirement to have their [A]-feature checked in INFL (T).
- b. Covert (LF) movement of anaphors is = *Overt movement of the [A] feature* (see also Rudnitskaya 2000).
- c. Monomorphemic anaphors become interpretable after the [A] feature requirement in (a) has been satisfied.

Given (27), the derivational nature of Principle A becomes sensitive to the feature requirements of the elements involved, exactly as the data imply.⁷ In particular, monomorphemic anaphor binding can crucially not be calculated until Move F has occurred. At the same time as we have seen, Principle A remains in its essence derivational, as a range of potential binders can move into A-position, if the language independently allows such movement, as we have seen for Russian and Japanese. Furthermore, recall from above that various elements can be bound after LD scrambling, an A'-movement which obligatorily reconstructs, requiring derivational binding only.

Thus Principle A applies derivationally, but only once the anaphor is available for interpretation, which in turn depends on it carrying no uninterpretable features. This approach is fully consistent with derivational approaches to Spell Out advocated by Kitahara (1997), Epstein et al (1998), Saito (2003) and others. A version of Derivational Spell Out is given in (28).

(28) Derivational Spell Out (Kitahara 1997, Epstein et al. 1998, Saito 2003)

- a. Linguistic expressions and their interpretations are built up derivationally. In particular, items are interpreted *as they become interpretable* in the course of the derivation.

⁷ Naturally, the question arises as what the nature of the [A] movement requirement is, why it can be satisfied only by T, and why it should apply only to monomorphemic anaphors. I will not take a strong stand on these issues here other than to say that the question applies to any movement account of anaphor binding (see Cole & Sung 1992 for discussion), regardless of level of application (Covert Movement vs. Move F). The fact that only non-agreeing (monomorphemic) anaphors are involved implicates feature sharing, in the sense of Pesetsky & Torrego (2004), with the element in SpecTP. I leave the exact formulation of what forces anaphor raising to T to future work.

- b. An element becomes interpretable when all its uninterpretable features have been deleted.

With respect to Principle A, a derivational approach, provided in (29), can now be maintained with no loss of empirical coverage:

- (29) Derivational Principle A: Satisfied if an interpretable anaphor is bound by a c-commanding coindexed [+D] antecedent *at any time in the derivation*.

As for the effect of A-movement but not A'-movement on potential antecedents, we need only assume that A-movement is triggered by a [D] feature which then enters into binding relations, whereas A'-movement has a different trigger [wh] or [OP] and therefore doesn't feed binding relations.⁸ Thus Japanese object scrambling, Russian Generalized Inversion, English passivization and raising and other instances of A-movement can feed new binding relations in the course of the derivation. In the case of English, however, where anaphors themselves carry no uninterpretable [A] feature, the system allows binding from any A-position, including the relatively low position occupied by objects. In subject-orientation languages, object binding fails, because the anaphor is c-commanded by the object only at a stage when it is still uninterpretable. (30) summarizes the analysis:

⁸ Note that this approach is similar in spirit to that of Saito (2003): "Let us assume that deletion applies to the features P, O and D so that each of them is retained only at one position. The P-feature must be retained at the head of the chain. For the rest, suppose further that deletion is constrained by selection, and that a feature can only appear in a position where it is selected." (Saito 2003)

However, Saito (2003) encounters various difficulties, esp. (a) the claim that scrambling is not feature-driven, and (b) the assumption that all scrambling is to a uniform IP-adjunction position, which requires maintaining stipulations about when this position is an A-position (Japanese Scrambling) and when it is an A'-position (English Topicalization). See Bailyn (2004b) for details of how such complications can be avoided. Also, Saito's approach cannot solve the Binding Paradox (ie, the Subject Condition must be stipulated).

(30) Derivational resolution of the Binding Paradox:

- i. Monomorphemic anaphors have an (independent) requirement to have their A-feature valued in INFL (T).
- ii. Covert (LF) movement of anaphors = *Overt movement of* [A].
- iii. Until [A] is valued in T, (monomorphemic) anaphors cannot be interpreted.
- iv. Elements are interpreted (enter into binding relations) as soon as they are interpretable.
- v. Principle A is derivational, and yet the Subject Condition is intact.

The system proposed here makes a strong prediction, namely that examples like (1), repeated as (31) should not be available in languages like Russian or Serbo-Croatian, because the early binding allowed by derivational spell-out cannot apply until Move F has occurred in those languages, removing the anaphor from the binding domain of the experiencer object (a version of the subject-condition). (32-33) show that this prediction holds for both Russian and Serbo-Croatian.⁹

(31) [Pictures of **himself**] worry **John**.

- (32) a. ??[Sluxi o sebe_i] volnujut **Ivana_i** (Rus)
 rumors about self worry Ivan_{ACC}
 'The rumors about himself worry Ivan.'
- b. * [Svoi podčinennye]_{NOM} razdražajut **Ivana**.
 [self's subordinates] irritate Ivan
 'His subordinates irritate John.'

⁹ Presumably, the somewhat acceptable nature of the (a) sentences relates to a possible logophoric use of the reflexive pronoun that is unavailable with the possessive form in the (b) sentences, for which the effect is particularly strong, possibly because of the unavailability of movement out of a subject, as a reviewer suggests. The contrast between English (31) and even the better (a) sentences in Russian and Serbo-Croatian shows that the prediction holds. I leave the issue of the proper characterization of the difference between the pronominal anaphor *sebjá / sebe* and the possessive *svoj* for future research.

- (33) a. ??[Glasine o **sebi**] brinu **Jovanu.** (SC)
 rumors about self worry Jovan_{ACC}
 ‘The rumors about himself worry Jovan.’
- b. *[**Svoji** radnici] brinu **Jovana.**
 self’s workers worry ·Jovan
 ‘His workers worry Jovan.’

5 Conclusion

We have seen the need for a derivational version of Principle A. At the same time, the Subject Condition is languages like Russian and Serbo-Croatian appears to present a problem for derivational binding in that some kind of movement must occur before binding is calculated, so that the observed object obviation is achieved. This Binding Paradox can be resolved with a Move F approach to anaphor movement, along with a particular version of derivational Spell-Out. Microvariation between Russian and Serbo-Croatian reduces to the independently motivated possibility of movement into SpecT of more non-Nominative elements in Russian than in Serbo-Croatian.

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On the Clausal and NP Structure of Serbo-Croatian

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The paper has two goals: to discuss the basic clausal structure of Serbo-Croatian (SC) including basic operations that apply at this level, and the NP structure of SC, with the emphasis on the question of whether SC NPs have the DP layer. Much of the discussion also applies to other Slavic languages.

1 Clausal Structure

1.1 V/Aux-Movement

Consider the position of the verb. I will compare SC with French and English in this respect. As the ambiguity of (1) shows, V in French moves both above low, manner adverbs, and high, sentential adverbs, i.e. it moves to the highest X^0 within split I. (2) is standardly taken to show English Vs don't raise outside of VP. (I ignore potential movement within VP/vP.)

- (1) Jean répond correctement à Marie.
Jean replies correctly to Marie
'Jean is giving Marie a correct answer.'
'Jean is doing the right thing in answering Marie.'
- (2) *John answered correctly Mary.

Stjepanović (1999b) notes SC Vs can cross manner but not sentential adverbs. This shows SC V is lower than French, but higher than English V.

- (3) Odgovara pravilno Mileni.
answers correctly Milena_{DAT}
'He is giving Milena a correct answer.'
*'He is doing the right thing in answering Milena.'

Assuming with Bošković (1997), who adopts Split I, that sentential

adverbs are TP-adjoined, Stjepanović suggests SC Vs move to T. She also suggests the movement is optional due to *Pravilno odgovara Mileni*, where *pravilno* is ambiguous (it can have sentential reading).

As in English, there is a V/aux contrast in SC: in contrast to Vs, auxiliaries can precede sentential adverbs (clitics are given in italics).

- (4) Oni *su* pravilno odgovorili Mileni.
 they are correctly answered Milena_{DAT}
 ‘They did the right thing in answering Milena.’
 ‘They gave Milena a correct answer.’

Bošković (2001) notes a difference between SC and English. In contrast to English, sentential adverbs cannot precede subjects in SC. This can be accounted for by assuming (a) sentential adverbs can be either TP or AgrsP adjoined in English while in SC they can only be TP adjoined or (b) SC subjects are higher than English subjects (SpecIP could be filled by pro in SC; see Barbosa 1995 regarding Romance). I will proceed by adopting (a).

- (5) Probably, they have beaten Peter.
 (6) a. *Vjerovatno oni tuku Petra.
 probably they beat Petar
 b. Oni vjerovatno tuku Petra.

Putting all of this together, we get (7) for a basic SC clause.

- (7) [_{AgrsP} Subject aux-clitic [_{TP} sent. adverb [_{TP} (finite main verb) [_T [_{VP/AgroP} manner adverb [_{VP/AgroP} (finite main verb)

As for strong auxiliaries, Bošković (2001) notes that they pattern with such auxiliaries in English in that they cannot move across sentential adverbs. I suggest strong auxiliaries move to ΣP , which is located below sentential adverbs, possibly for semantic reasons (sentential adverbs may need to have scope over negative/emphatic aux).

- (8) a. *Nisu/jesu vjerovatno poljubili Mariju.
 not+are/ARE probably kissed Marija
 ‘They probably did not/did kiss Marija.’
 b. Vjerovatno nisu/jesu poljubili Mariju.
 (9) a. They probably haven’t kissed Mary.
 b. *They haven’t probably kissed Mary.

1.2 Clitics

SC clitics cluster in second position (2P). Until recently it has been standardly assumed that SC clitics cluster syntactically in the same head position. However, there is strong evidence against this position. E.g., Bošković (2001) shows that while aux clitics can (4), object clitics cannot occur above subject-oriented adverbs (10). This provides strong evidence that aux and object clitics don't occur in the same head position (11).

- (10) Oni *su joj* pravilno odgovorili.
 they are her_{DAT} correctly answered
 'They gave her a correct answer/*did the right thing in answering her.'
- (11) [_{AgRP} aux-clitics] [_{TP} sent. adverb] [_{TP} object clitics]

Interestingly, *pravilno* still cannot intervene between *su* and *joj*.

- (12) *Oni *su pravilno joj* odgovorili.
 they are correctly her_{DAT} answered

Bošković (2001) argues there is nothing wrong with (12) syntactically: it is bad because it violates the 2P requirement, which is a PF, not a syntactic condition. (13)-(14) illustrate the 2P effect (placing *smo ga* in any other position would lead to unacceptability), which is traditionally stated in syntactic terms: clitics must be second within their clause.

- (13) Mi/zašto *smo ga* upoznali juče.
 we why are him met yesterday
 'We met him yesterday./Why did we meet him yesterday?'
- (14) Ona tvrdi da *smo ga* upoznali juče.
 she claims that are him met yesterday

The traditional statement that SC clitics are second within their clause is clearly incorrect. As (15)-(17) show, certain elements, such as appositives, fronted heavy constituents, and parentheticals, can cause clitics to occur further than 2P of their clause.

- (15) Sa Petrom Petrovićem srela *se* samo Milena.
 with Petar Petrović met self only Milena
 'With Petar Petrović, only Milena met.'

- (16) Znači da, kao što rekoh, oni će sutra doći.
 means that as said they will tomorrow arrive
 'It means that, as I said, they will arrive tomorrow.'
- (17) Ja, tvoja mama, obećala sam ti sladoled.
 I your mother promised am you_{DAT} ice cream
 'I, your mother, promised you an ice cream.'

The distribution of SC clitics can be stated in very simple prosodic terms:

- (18) SC clitics occur in the second position of their intonational (I-) phrase.

Prosodic structure is determined by syntactic structure. It is standardly assumed that unless interrupted by an element that forms a separate intonation domain, each clause is mapped to a single I-phrase, with the CP edge corresponding to an I-phrase boundary. Some elements, such as appositives, parentheticals, and heavy fronted constituents, form separate I-phrases, evidence for which is provided by the fact that they are followed by pauses. Under the most natural pronunciation clitic second examples in (13) then contain only one I-phrase. In (15)-(17), on the other hand, the relevant clauses are parsed into more than one I-phrase, since the fronted heavy constituent, the parenthetical, and the appositive form separate I-phrases. This means a new I-phrase starts after these elements, which are obligatorily followed by a pause. Given this, the clitics are located in 2P of their I-phrase in (15)-(17). When we place a clitic in 3P of its I-phrase, violating (18), we get ungrammatical examples.

- (19) a. *Petra srela je samo Milena.
 Petar_{ACC} met is only Milena_{NOM}
 b. *Ja obećala sam ti sladoled.
 c. *Znači da oni će sutra doći.

The correct generalization regarding the distribution of SC clitics is then that they are second within their I-phrase, not their clause, which shows that the 2P effect is a PF effect.

A confirmation of (18) is provided by Bošković's (2001), examples (20)-(21).

- (20) * *Ko koga je poljubio?*
 who whom is kissed
 ‘Who kissed who?’
- (21) ?*Koji čovjek, koju je knjigu kupio?*
 which man which is book bought
 ‘Which man bought which book?’

Given Rudin’s (1988) claim that fronted wh-phrases in SC don’t form a constituent, (20) violates (18) (assuming straightforward mapping from syntactic to prosodic constituents). (20) improves with heavier wh-phrases (21). The first wh-phrase in (21) must be followed by a pause, an indication of an I-phrase boundary. As a result, *je* is located in 2P of its I-phrase. (18) easily captures (20)-(21). On the other hand, it is difficult to see how they can be accounted for under a purely syntactic account since the proposed analyses of MWF assign (20)-(21) the same syntactic structure.

Bošković (2001) gives an account of (18) on which SC clitics must encliticize to a constituent that is right-adjacent to an I-phrase boundary because of their PF lexical properties. As a result, they must be second within their I-phrase. The analysis forces phonological clustering of I-phrase-mate clitics, but not clause-mate clitics. It doesn’t force their syntactic clustering in the sense that it does not force clitics to occur in the same head position. (22) is then ruled out in PF because the prosodic properties of *ga* are not satisfied. (*Ga* violates (18).)

- (22) ...**da su juče ga istukli.*
 that are yesterday him beaten
 ‘that they beat him yesterday.’

In Slovenian a clitic host also must be adjacent to an I-phrase boundary. However, Slovenian differs from SC in that its clitics can be either enclitics or proclitics. As a result, prosodically, nothing prevents breaking of a clitic cluster in Slovenian by an element that is adjacent to an I-phrase boundary. As noted in Bošković (2001), examples of this type are indeed acceptable in Slovenian (23). This confirms the relevance of prosodic requirements to clitic clustering in the languages in question.

- (23) *So včera j ga pretepli?*
 are yesterday him beaten
 ‘They beat him yesterday?’

I now turn to clitic placement. During the discussion below we will need to control for the 2P effect since an example violating (18) will be ruled out in PF independently of whether syntactic requirements of its clitics are met.

There is a lot of evidence for a height difference between aux and object clitics, which shows they don’t cluster in the same head position. First, the adverb data in (4)/(10) quite clearly show aux and object clitics don’t occur in the same head position. The same holds for Stjepanović’s ellipsis data. Given that ellipsis affects constituents, it must be the case that the object clitics and *dali* in (24) form a constituent to the exclusion of the aux clitic, hence aux and object clitics cannot be in the same head position.

- (24) ?*Mi smo mu ga dali, a i vi ste mu—ga—dali.*
 we are him_{DAT} it_{ACC} given and also you are him_{DAT} it_{ACC} given
 ‘We gave it to him, and you did too.’ (Stjepanović 1999b)

That aux clitics are higher than object clitics is confirmed by (25), where quite a bit of material occurs between the clause-mate clitics *su* and *se*. (Due to the parenthetical, which is followed by an I-phrase boundary, each clitic in (25a) is located in 2P of its I-phrase. Note that (25c) is unacceptable because *se* is not located in 2P of its I-phrase. The contrast in (25a)/(25c) shows I-phrase-mate, but not clause-mate clitics have to cluster together, indicating the clustering requirement is prosodic, not syntactic.)

- (25) a. *Oni su, kao što sam vam rekla, predstavili se Petru.*
 they are as am you_{DAT} said introduced self_{ACC} Petar_{DAT}
 ‘They, as I told you, introduced themselves to Petar.’
 b. **Oni se, kao što sam vam rekla, predstavili su Petru.*
 c. **Oni su predstavili se Petru.* (Bošković 2001)

Wilder and Čavar (1997) note speakers who allow VP fronting with aux clitics accept (26), which confirms aux clitics are higher than object clitics.

- (26) *Dali ga Mariji su Ivan i Stipe.*
 given it_{ACC} Marija_{DAT} are Ivan and Stipe
 ‘Give it to Marija, Ivan and Stipe did.’

There is also a height difference between pronominal clitics—they don't cluster in the same head position either. Thus, when applied to pronominal clitics, the ellipsis and the parenthetical split test show dative clitics are higher than accusative clitics. ((29)-(30) are from Bošković 2001.)

- (27) ?*Mi smo mu ga dali, a i vi ste mu ga—dali.*
 we are him_{DAT} it_{ACC} given and also you are him_{DAT} it_{ACC} given
- (28) **Mi smo mu ga dali, a i vi ste ga mu—dali.* (Stjepanović 1999b)
- (29) ?*Oni su mu, kao što sam vam rekla, predstavili ga juče.*
 they are him_{DAT} as am you_{DAT} said introduced him_{ACC} yesterday
 'They, as I told you, introduced him to him yesterday.'
- (30) **Oni su ga, kao što sam vam rekla, predstavili mu juče.*

Progovac (1993) shows clitic climbing is marginally possible out of some finite clauses. Stjepanović (1999b) notes that if only one pronominal clitic in a double object construction climbs it must be the dative, which follows if the dative clitic is higher than the accusative clitic.

- (31) a. ?*Marija mu želi da ga predstavi.*
 Marija him_{DAT} wants that him_{ACC} introduces
 'Marija wants to introduce him to him.'
- b. **Marija ga želi da mu predstavi.*

Putting all of this together, Bošković (2001) adopts the structure in (32).

- (32) [_{AgrsP} aux-clitic [_{AgrioP} dative clitic; [_{AgrdroP} acc. clitic; [t_i main V t_j]].

Turning to ethical dative, (33) shows that, in contrast to argumental dative (10), ethical dative can precede sentential adverbs, indicating the latter is higher than the former. (37), where the ethical dative must precede the argumental dative (ethical dative cannot be in the 3rd person), confirms this.

- (33) *Oni su ti pravilno odgovorili Ani.*
 they are you_{DAT} correctly answered Ana_{DAT} (you=ethical dative)
 'They did the right thing in answering Ana/gave Ana a correct answer.'
- (34) a. *Juče sam ti joj pomogla.*
 yesterday am you_{DAT} her_{DAT} helped (you=ethical dative)
 'Yesterday, I helped her.'

b. * Juče *sam joj ti* pomogla.

Ethical dative clitics can then be incorporated into (32) as follows, where ΔP is a discourse-related projection.

- (35) [_{AgrsP} aux-clitic [_{ΔP} ethical dative clitic [_{TP} sent. adverbs [_{TP} [_{AgrioP} dative clitic [_{AgrdoP} accusative clitic [_{VP}

These data show the order of clitics within the cluster matches their height (if X precedes Y, X is higher than Y), which favors a structural account of the order over arbitrary morphological template accounts, where the order within the clitic cluster is stipulated in the morphology. In such an account, the correlation with syntactic height is completely accidental.

A standard argument for a morphological template analysis concerns *je*, which, in contrast to other aux clitics, follows object clitics.

- (36) a. Oni *su mu ga* predstavili.
 they are him_{DAT} him_{ACC} introduced
 ‘They introduced him to him.’
 b. Ona *mu ga je* predstavila.
 she him_{DAT} him_{ACC} is introduced

However, Bošković (2001) shows *je* is higher than object clitics in the syntax. The above tests conclusively show this (compare (40) with (10)).

- (37) Ona *mu ga je* predstavila, a i on *je mu — ga —* predstavio.
 she him_{DAT} him_{ACC} is introduced and also he is him_{DAT} him_{ACC} introduced
 ‘She introduced him to him and he did too.’
 (38) ?On *je, kao što sam vam* rekla, predstavio *se* Petru.
 he is as am you_{DAT} said introduced self_{ACC} Petar_{DAT}
 ‘He, as I told you, introduced himself to Petar.’
 (39) Dao *ga Mariji je* Ivan.
 given it_{ACC} Marija_{DAT} is Ivan
 ‘Give it to Marija, Ivan did.’
 (40) Jovan *je* pravilno odgovorio Ani.
 Jovan is correctly answered Ana_{DAT}
 ‘Jovan gave Ana a correct answer/did the right thing in answering Ana.’

Bošković (2001) concludes *je* is not lower than object clitics in the syntax; there is in fact no difference in syntactic height between *je* and other aux clitics. As discussed in section 1.5, the word order difference is a PF effect.

I now turn to Prosodic Inversion (PI). Halpern (1995) argues that when SC clitics are sentence initial in the syntax, they move in PF looking for a host. This movement, PI, applies only when necessary and moves clitics the minimal distance necessary (after the first stressed word). Halpern proposes PI to account for cases like (41), where *su* seems to break a constituent. For him, *su* is sentence initial in the syntax, undergoing PI in PF.

(41) *Tog su čovjeka vidjeli.*
 that are man seen
 ‘They saw that man.’

(42) Syntax: *su tog čovjeka vidjeli.* PF: *Tog su čovjeka vidjeli.*

However, there is strong evidence against this analysis. It fails to capture the correlation between syntactic movability and the ability to host a clitic and overgenerates in that it rules in many cases where a clitic cannot occur following the first stressed word (see Wilder and Čavar 1994, Franks and Progovac 1994, Bošković 2001.) Notice first that we don’t need PI to derive (41). SC allows left-branch extraction, as shown by (43), which can’t be derived by PI and must involve left-branch extraction of *kojeg/tog*.

(43) *Kojeg/Tog_i tvrdiš da su t_i čovjeka vidjeli.*
 which/that you-claim that are man seen
 ‘Which man do you claim they saw./That man, you claim they saw.’

Strong evidence against PI is provided by cases where a syntactically immobile element attempts to host a clitic. In (44) we have an element that cannot move in the syntax. (45) shows *prema*, which is stressed, also cannot precede a 2P clitic. Given (46), it should be possible for the syntax to provide to PF the output in (47), with PI incorrectly deriving (45).

(44) **Prema_i hodaju [PP t_i Mileni].*
 toward walk Milena_{DAT}
 ‘They are walking toward Milena.’

- (45) *Prema *su* Mileni hodali (juče).
 toward are Milena_{DAT} walked yesterday
 'Toward Milena they walked.'
- (46) cf. Juče *su* prema Mileni hodali.
- (47) SS: *su* prema Mileni hodali PF: Prema *su* Mileni hodali

Split names, discussed in Franks (1998) and Bošković (2001), confirm only elements that can be placed in front of clitics by syntactic movement can host them, which means syntax, not PF, provides a host for SC clitics. Consider (48)-(50). It is possible in some cases to inflect for structural case either one or both names in a first+last name complex. (Nom. is the default case in (48)-(50).) *Leo* can be separated from *Tolstoi* by movement only when they are both inflected for structural case. Significantly, cliticization patterns with movement. This is expected if only elements that can be base-generated or syntactically moved in front of a clitic can precede it. Under the PI analysis we would expect all the examples in (50) to be good, since nothing blocks the derivation in (51).

- (48) a. Lava Tolstoja čitam.
 Leo_{ACC} Tolstoi_{ACC} read
 'Leo Tolstoi, I read.'
- b. ?Lava Tolstoj čitam.
 Leo_{ACC} Tolstoi_{NOM} read
- c. Lav Tolstoja čitam.
 Leo_{NOM} Tolstoi_{ACC} read
- (49) a. Lava čitam Tolstoja.
 b. *Lava čitam Tolstoj.
 c. *Lav čitam Tolstoja.
- (50) a. Lava *sam* Tolstoja čitala.
 Leo_{ACC} am Tolstoi_{ACC} read
 'Leo Tolstoi, I read.'
- b. *Lava *sam* Tolstoj čitala.
 c. *Lav *sam* Tolstoja čitala.
- (51) SS: Clitic Leo Tolstoi PF: Leo clitic Tolstoi

These data are the tip of the iceberg. It is easy to show with other examples that there is a correlation between syntactic mobility and the ability to host a clitic, which is totally unexpected under the PI analysis. In other words, adopting PI for SC is extremely problematic. (Bošković

2001 argues this in fact holds for Slavic in general, including the notorious *li*-construction.)

1.3 Multiple Wh-Fronting

I now turn to multiple wh-fronting (MWF). Rudin (1988) argues that despite superficial similarity, Bulgarian (52a) and SC (52b) have different structures. According to her, in Bulgarian all fronted wh-phrases are in SpecCP, while in SC only the first wh-phrase is in SpecCP.

- (52) a. Koj kogo vižda?
 who whom sees
 ‘Who sees whom?’
 b. Ko koga vidi?
 who whom sees

Bošković (2002) argues no wh-phrase has to move overtly to SpecCP in SC (52b). One of my arguments concerns Superiority (ordering of wh-phrases). Rudin shows Bulgarian and SC behave differently regarding Superiority.

- (53) a. *Kogo koj vižda?
 b. Koga ko vidi?

Bošković (2002) shows this picture is more complicated. Bulgarian shows Superiority effects in all contexts. Russian doesn’t show them at all. SC, on the other hand, shows them in some contexts, namely exactly in those contexts where French must have wh-movement: embedded, long-distance (LD), and overt C (*li*) questions. I illustrate this here for LD questions.

- (54) a. ?Ko koga tvrdiš da je istukao?
 who whom claim that is beaten
 ‘Who do you claim beat whom?’
 b. *Koga ko tvrdiš da je istukao?
 (55) a. *Jean et Marie croient que Pierre a embrassé qui?
 John and Mary believe that Peter has kissed who
 b. cf. Qui Jean et Marie croient-ils que Pierre a embrassé?
 c. cf. Pierre a embrassé qui?

There is then a correlation between Superiority in MWF languages and

the contexts where non-MWF languages must have wh-movement: SC has superiority effects where French must have wh-movement, Bulgarian has them where English must have wh-movement, and Russian has them where Chinese must have wh-movement (i.e. never). This can be captured if SC/Bulgarian/Russian pattern with French/English/Chinese regarding when they have wh-movement; the former differ from the latter in that they have additional wh-fronting which I argue involves focalization. Wh-movement is then well-behaved with respect to Superiority. Anytime a MWF language must have wh-movement, it shows superiority effects. (See Bošković 1999 for explanation why, in contrast to wh-movement, focalization doesn't show superiority effects. Richards 2001 proposes an alternative account, which however does not extend to all relevant contexts in SC and is based on certain incorrect assumptions about SC scrambling, see Bošković 1998).

Bošković (2003a) also shows there is variation regarding whether questions like (56) allow single-pair (SP) answers. While wh-movement languages like English and German don't allow them, wh-in-situ languages like Chinese, Hindi and Japanese allow them. Particularly interesting is French: wh-in-situ (57a) allows SP readings while (57b) does not.

(56) Who bought what?

(57) a. Il a donné quoi à qui?

he has given what to whom

b. Qu'a-t-il donné à qui?

Based on this, I conclude overt wh-movement has a damaging effect on SP answers (see Bošković 2003a for an account of this. Note we are dealing here with a one-way correlation which doesn't rule out the option of non-wh-movement languages disallowing SP answers.) Interestingly, SC allows a SP answer for (56), while Bulgarian doesn't, which confirms that, in contrast to Bulgarian, SC doesn't have to have wh-movement. As for other MWF languages, Polish, Czech, and Russian pattern with SC regarding both superiority and SP answers, while Romanian and Yiddish pattern with Bulgarian (see the references in Bošković in press a, which also includes discussion of speaker variation in SC and Russian that confirms the above correlation). The correlation between the availability of SP answers and the lack of Superiority effects is expected under Bošković's (2002) analysis, where they both indicate the lack of true wh-movement.

It is also worth noting that in Bošković (2003b) I argue the same

mechanism is responsible for different behavior of English and French with respect to the obligatoriness of Inversion and *wh*-movement. Not surprisingly given the above discussion, Bulgarian and SC again pattern with English and French respectively (Inversion turns out to be irrelevant to the question of whether Russian has *wh*-movement; see Bošković 2002).

- (58) a. Qui tu as vu?
 b. *Who you have seen?

- (59) a. *Kakvo toj dade na Petko/ √Kakvo dade toj na Petko.
 what he gave to Petko
 ‘What did he give to Petko?’ (Bulgarian)
 b. Šta on dade Ivanu?
 what he gave Ivan_{DAT} (SC)

Finally, recall Rudin argues all fronted *wh*-phrases are located in SpecCP in Bulgarian, forming an impenetrable cluster. Bošković (2003b) shows that when SC must have *wh*-movement, it switches to the Bulgarian paradigm, with all fronted *wh*-phrases located in SpecCP. So, while in the contexts where SC doesn’t have to have *wh*-movement a parenthetical can split fronted *wh*-phrases, in contrast to Bulgarian, in the contexts where SC must have *wh*-movement, SC patterns with Bulgarian. I illustrate this for LD questions (see Bošković 2003b for the full paradigm and an explanation).

- (60) Ko, po tebi, šta kupuje? (SC)
 who according-to you what buys
 ‘Who, according to you, is buying what?’
 (61) ?*Koj, spored tebe, kakvo kupuva? (Bulgarian)
 who according-to you what buys
 (62) *Ko, po tebi, koga vjeruju da tuče? (SC)
 who according-to you who believe_{3PL} that beats
 ‘Who, according to you, they believe beats who?’

1.4 Scrambling

Examples like (63) are often taken to show SC has scrambling. However, (63) doesn’t necessarily show this since (63) is acceptable in English, and English doesn’t have scrambling. Rather, (64) involves topicalization.

- (63) Ivana Marija voli.
 Ivan_{ACC} Marija_{NOM} loves
 (64) Ivan, Mary loves.

It is well-known that, in contrast to topicalization, scrambling Japanese is semantically vacuous. This is shown by (65), where the scrambled QNP cannot take wide scope, which the topicalized QNP in (66) can do. (All the Japanese data are from Bošković 2004 and Bošković and Takahashi 1998.)

- (65) Daremo-ni dareka-ga [Mary-ga *e* atta to] omotteiru.
 everyone_{DAT} someone_{NOM} Mary_{NOM} met that thinks
 ‘Everyone, someone thinks that Mary met.’
 (66) Everyone, someone thinks that Mary met.

Do Slavic languages then have Japanese scrambling? Bailyn (2001) notes that the fronted QNP can take wide scope in Russian (67).

- (67) Každogo mal’čika kto-to xočet, čtoby Boris uvidel *e*.
 every boy someone wants that_{SUBJ} Boris saw
 ‘Every boy, someone wants Boris to see’

Does this mean Russian doesn’t have scrambling? Not necessarily. As Bošković (2004) notes, since Russian has topicalization (top) and focalization (foc) (67) may simply represent the top/foc option, making it irrelevant to the question at hand. The point extends to SC. To determine whether SC has scrambling in addition to top/foc, we need something that top/foc can’t do, but scrambling can. One relevant test involves relativized minimality (RM). It is well-known that, in contrast to, e.g. topicalization, scrambling is insensitive to RM. Thus, multiple scrambling and scrambling out of wh-islands is possible, while topicalization is disallowed in these contexts.

- (68) * That book_j, John_i, Bill said that Mary handed $e_i e_j$.
 (69) Sono hon-o_i John-ni_j Bill-ga Mary-ga $e_j e_i$ watasita to itta
 (70) ?? That book, John wants to know whether Mary read.
 (71) Sono hon-o_i John-ga [Mary-ga e_i yonda ka dooka]siritagatteiru.
 that book_{ACC} John_{NOM} Mary_{NOM} read whether wants-to-know

SC patterns with Japanese: Stjepanović (1999a) notes (72a) contrasts with

wh-movement out of wh-islands (72b), which follows if it involves scrambling, like Japanese (71) and unlike English (70). That SC has scrambling is confirmed by (73), which patterns with (69) rather than (68).

- (72) a. Ovu knjigu_i Marko i Ivan znaju kada je Petar pročitao e_i.
 this book Marko and Ivan know when is Petar read
 b.?* Kakvu knjigu_i Marko i Ivan znaju kada je Petar
 what book Marko and Ivan know when is Petar
 pročitao e_i?
 read
 ‘What book do Marko and Ivan know when Peter read?’
- (73) Ivanu tu knjigu Marija daje.
 Ivan_{DAT} that book_{ACC} Marija gives

The conclusion is confirmed by radical reconstruction. Saito (1992) shows that, in contrast to topicalization (74), scrambling can take a wh-phrase outside of its scope (75). Stjepanović (1999a) shows SC allows examples similar to (75), where the wh-phrase is taken outside of its scope. (Due to MWF, the wh-phrase still has to be fronted. What is important is that (76) is interpreted like *Marko zna ko želi koliko novca potrošiti*.)

- (74) * [That Mary met who]_i; I know who_j e_j believes e_i?
 (75) ? [Mary-ga nani-o katta to]_i; John-ga [Bill-ga e_i itta ka sitteiru].
 Mary_{NOM} what_{ACC} bought that John_{NOM} Bill_{NOM} said Q knows
 ‘John knows what Bill said that Mary bought.’
 (76) ? [Koliko novca potrošiti]_i; Marko zna ko želi e_i.
 how-much money to-spend Marko knows who wants
 ‘Marko knows who wants to spend how much money.’

This shows that in addition to top/foc, SC has Japanese-style scrambling. (As for Russian, there is some controversy regarding the RM test data; see Bailyn 2001 and Bošković 2004. The wh-phrase-outside-of-its-scope test cannot be run in Russian due to an interfering factor; see Bošković 2004).

1.5 Pronunciation of Lower Copies

I now turn to pronunciation of lower copies (PLC), which plays an important role in SC syntax. Under the copy theory of movement a question arises which copy of a moved element should be pronounced. It is often assumed it is always the highest copy. However, Franks (1998)

(see also Bošković 2001, 2002) makes an important modification of this assumption. He argues pronunciation of heads of chains is just a preference. A lower copy can be pronounced iff this is necessary to avoid a PF violation. Bošković (2002) provides evidence for this based on MWF. Consider Romanian (77)-(80).

- (77) a. * Cine a adus ce?
 who has brought what
 b. Cine ce a adus?
 (78) a. Ce precede ce?
 what precedes what
 b. * Ce ce precede?
 c. Ce ee_i precede ce_i?
 (79) Ce precede ce fără să influențeze?
 what precedes what without subj. particle influence_{3p.sg}
 ‘What precedes what without influencing.’
 (80) a. What did John file without reading?
 b.* Who filed what without reading?

(77) shows Romanian is a MWF language. However, there is an exception to the obligatoriness of MWF. When wh-phrases are homophonous, the second wh-phrase is pronounced in situ (78a). Many languages have bans on homophonous sequences of certain morphemes. Since the ban pays attention to pronunciation, it should be a PF constraint. This is what rules out (78b). What about (78a)? It seems a wh-phrase fails to do here the movement it normally must do in the syntax to avoid violating a PF condition. Since we normally don't find this kind of phonology/syntax interaction, I proposed an alternative account in Bošković (2002). Suppose that, as always, the second wh-phrase undergoes syntactic movement. We then get (78c). If we pronounce the head of the chain of the second *what*, we violate the PF constraint in question. But this is exactly the case when we can pronounce a lower copy. Under the PLC analysis, the “wh-in-situ” in (78a) undergoes overt wh-movement, just like *what* in *What did John buy*, it just happens to be pronounced in situ. There is strong evidence for this analysis. It is well-known that only moved wh-phrases can license parasitic gaps; a wh-in-situ cannot do that (80). Romanian wh-in-situ in question licenses parasitic gaps (79), just like overtly moved wh-phrases.

Returning to *je*, Bošković (2001) shows PLC enables us to explain the behavior of *je* noted above. Recall *je* precedes (it is higher than) object clitics in the syntax, but follows them in PF. Following den Dikken (1994) I adopted (81), where *je* is generated below the SS position of object clitics, and then moves above them. I proposed a PF constraint requiring *je* to be pronounced last within the clitic cluster, which was shown to have independent motivation. Given this, we must pronounce lower *je* in (81). We then have an account of the dual behavior of *je*: it behaves as if it's higher than object clitics in the syntax because it is higher than they are. It follows them in PF because a PF constraint requires pronunciation of a lower copy of *je*.

(81) je_i [_{Agrio} dative clitic [_{Agrodo} accusative clitic [_{VP/AuxP} je_i ...]]]

In both the *je* and the *what.what* case, PLC provides us with an elegant way of capturing syntax-phonology mismatches, where X behaves as if it's higher than where it is pronounced. In Bošković (2001) I show PLC also enables us to turn a number of optional movements into obligatory movements. To account for (4) and (82), Bošković (1997) argued that after the participle moves in front of the aux clitic, establishing part-aux order, the aux optionally moves to Agrs, the option being taken in (4) but not (82),

(82) Odgovorili *su* pravilno Mileni.

'They gave Milena a correct answer.'

* 'They did the right thing in answering Milena.'

Under PLC, aux movement can be considered obligatory. We then have (83), where aux always moves in front of part. If there is a pronounced element in front of the aux clitic we pronounce the higher aux (83a). If there isn't, pronunciation of the higher copy would induce a PF violation, which means we can pronounce the lower copy (83b). Part-aux order then arises via lower copy pronunciation, which occurs for PF reasons so that the aux clitic can be prosodically supported. The analysis makes a prediction. Since there is nothing wrong in PF if a non-clitic aux is sentence initial, we should always pronounce the higher copy of the strong aux, which means part-aux order should be impossible with a strong aux. The prediction is borne out, as (84)-(85) show (*su* is a clitic aux).

- (83) a. X aux-clitic part. ~~aux-clitic~~
 b. ~~aux-clitic~~ part. aux-clitic
- (84) *Odgovorili nisu/jesu njoj.
 answered not+are/ARE her
 'They did not/DID answer her.'
- (85) a. Nisu/jesu odgovorili ~~nisu/jesu~~ njoj.
 b. ~~su~~ odgovorili *su* njoj.

Consider now (86). (86) could be taken to indicate the subject optionally moves in front of the clitic. PLC again enables us to treat this as obligatory movement. Assume the subject always moves in front of the clitic. In (87a), we can, hence must, pronounce higher *oni*. But this is impossible in (87b), since this would violate the 2P requirement on *su*. We then pronounce lower *oni* to satisfy the PF condition in question.

- (86) a. *Oni su* zaspali.
 they are fallen-asleep
 'They fell asleep.'
 b. Petar tvrdi da *su* oni zaspali.
 Petar claims that are they fallen-asleep
- (87) a. *Oni su oni* zaspali.
 b. Petar tvrdi da *oni su* oni zaspali.

PLC has extensive application in SC, often hiding overt movement effects (see Bošković 2001, Stjepanović 1999b). It is then important to bear it in mind when discussing examples where PF considerations may be relevant.

2 NP Structure

I now turn to NP structure. I will start by establishing several generalizations involving articles, which will be shown to have important consequences for the structure of the traditional NP (TNP). (They could turn out to be strong tendencies, which would still call for an explanation.)

2.1 Generalizations

Languages differ regarding whether they allow left-branch extractions (LB) like the following.

- (88) * Expensive/That_i he saw [_{t_i} car].

- (89) Skupa/Ta_i je vidio [t_i kola]. (SC)
 expensive/that is seen car
 (90) Doroguju/Tu_i on videl [t_i mašinu]. (Russian)
 expensive/that he saw car

Uriagereka (1988), Corver (1992) and Bošković (2005) establish (91): (Like most generalizations below, this is a one-way correlation. (91) doesn't say an articleless language must have LB.)

(91) Only languages without articles may allow LB examples like (89).

Bošković (2005) notes Bulgarian and Macedonian, the only Slavic languages with articles, differ from most other Slavic languages in that they disallow LB. Within Romance, Latin, which didn't have articles, differs from Modern Romance, which has articles, in that it had LB. Mohawk, Southern Tiwa and Gunwinjguan also allow LB and lack articles (see Baker 1996).¹

- (92) a. *Novata_i prodade Petko [t_i kola].
 new-the sold Petko car
 'The new car, Petko sold.'
 b. Novata kola_i prodade Petko t_i.

Before proceeding, let me note that for the purpose of (91) and other generalizations below, I take articles to be unique, i.e. occur once per TNP. The *i* ending in (93) is then not considered to be an article.²

¹ Based on (i), Bašić (2005) argues Bulgarian allows LB. However, without extraction (i) is unacceptable, which suggests (i) involves an adjective that is base-generated in, not moved to, its SS position, i.e. it doesn't involve LB.

(i) Nova ja prodade kolata (toj).
 new it sold car-the he

(ii) *(Toj) (ja) prodade nova kolata.

² It should become clear from the discussion below that what is important is the existence of a definite article in a language, given that indefinite articles have often been argued to be located below DP even in languages that clearly have DP (see, e.g., Bowers 1987, Stowell 1989, Chomsky 1995, Bošković in press b).

- (93) novi/nov crveni auto (SC)
 new_{DEF}/new_{INDEF} red_{DEF} car

This makes languages like Greek, where some speakers allow AP LB, irrelevant to (91). (The “article” in such examples would not be considered an article. See also Mathieu and Sitaridou 2002, who suggest that this type of “articles” in Greek are actually agreement markers (for definiteness).)

Consider now adjunct extraction from TNP, which English disallows.

- (94) a. Peter met [_{NP} girls from this city]?
 b. *From which city_i did Peter meet [_{NP} girls t_i]?

Observing SC and Russian do and Bulgarian doesn’t allow extraction of adjuncts out of TNP, Stjepanović (1998) (see also Bošković 2005) establishes (100). Note Polish and Czech pattern with SC and Russian.³

- (95) Iz kojeg grada_i je Petar sreo [djevojke t_i]? (SC)
 from which city is Peter met girls
 (96) Iz kakoga goroda ty vstrechal [devushek t_i]? (Russian)
 from which city you met girls
 (97) *Ot koj grad_i Petko [sreštna momičeta t_i]? (Bulgarian)
 from which city Petko met girls
 (98) Z którego miasta spotkałeś dziewczyny? (Polish)
 from which city you-met girls
 (99) Z kterého města jsi řekl, že jsi potkal dívky? (Czech)
 from which city you-are said that you-are met girls
 (100) Only languages without articles may allow adjunct extraction out of TNPs.

In Bošković (2004) I also establish the generalization in (101).⁴

³ Spanish allows (95). However, Ticio (2003) shows the phrase in question is an argument in Spanish. With clear adjuncts, such extraction is impossible.

⁴ By scrambling I mean here the kind of movement referred to as scrambling in Japanese, not German, whose “scrambling” is a very different operation with very different semantic effects from scrambling in Japanese. One of the defining properties of scrambling for the purpose of (101) is taken to be the existence of long-distance scrambling out of finite clauses, which German doesn’t have. For relevant discussion of German, see Bošković (2004).

(101) Only languages without articles may allow scrambling.

As an illustration of (101), SC, Latin, Japanese, Korean, Turkish, Hindi, Chukchi, Chichewa, Mohawk, and Warlpiri all have scrambling and lack articles. Particularly interesting here are Slavic and Romance. Note, e.g., that Bulgarian has noticeably less freedom of word order than SC. As for Romance, all modern Romance languages have articles and lack scrambling, while Latin lacked articles and had scrambling.

Next, we have the rather interesting, new generalization in (102).

(102) Negative raising (NR) in examples like (103) is disallowed in languages without articles.

SC, Czech, Polish, Slovenian, Russian, Turkish, Korean, Japanese, and Chinese all disallow NR and lack articles. On the other hand, English, German, Spanish, French, Portuguese, Romanian, and Bulgarian have both articles and NR. In light of this, (102) may actually be a two-way correlation: languages without articles disallow NR, and those with articles allow it. There are two important points to note here. First, I consider here only NR out of finite clauses (with overt C if this is an option). Second, I have relied on the ability of NR to license strict clause-mate NPIs, such as those in (104)-(107) (note the contrast between *believe*, an NR verb, and *claim*, a non-NR verb), *not* the interpretation judgment regarding (103), where the negation is interpreted in the lower clause.

(103) John does not believe that Mary is smart.

(104) John didn't leave/*left [NPI until yesterday]

(105) John hasn't/*has visited her [NPI in at least two years]

(106) a. John didn't believe [that she would leave until tomorrow]

b. John doesn't believe [that she has visited her in at least two years]

(107) a.* John didn't claim [that she would leave until tomorrow]

b.*John doesn't claim [that she has visited her in at least two years]

(108) gives a partial strict NPI paradigm for the languages in question.⁵

⁵ I used 'believe' in all the examples. If there were no interfering factors I used the above NPIs, which are underlined and interpreted in the embedded clause, the relevant reading being 'John believed/claimed Mary would not leave until

(108)

- a. Juan no cree/*dijo que María la ha visitado en al menos dos años.
 ‘Juan doesn’t believe/*claim that Maria has visited her in at least two years.’ (Spanish)
- b. O João não acreditou/??disse que a Maria vai sair até amanhã.
 ‘John didn’t believe/say that Mary would leave until tomorrow.’ (Brazilian Portuguese)
- c. Er hat *(nicht) sonderlich viel gegessen.
 he has not particularly much eaten.
 ‘He did not eat that much.’
- d. Ich glaube/*freue mich nicht dass, er sonderlich viel gegessen hat.
 I believe/*look.forward not that he particularly much eaten has (German)
- e. Ion nu a crezut/spus că Maria va pleca până mâine.
 ‘John did not believe/*say that Mary would leave until tomorrow.’
- f. Ion nu crede/*spus că Maria a vizitat-o de cel puțin doi ani.
 ‘John doesn’t believe/*didn’t say Maria has visited her in at least two years.’ (Romanian)
- g. Az ne vjarvam/*kazah če Meri ja e poseštavala pone dve godini.
 ‘I don’t believe/*didn’t say that Mary has visited her in at least two years.’ (Bulgarian)
- h. Jean ne croyait/*espérait pas que Marie parte avant demain.
 ‘Jean didn’t believe/*hope Mary would leave until tomorrow.’ (French)
- i. *Janez ne verjame, da jo je Marija obiskala že vsaj/najmanj dve leti.
 ‘John doesn’t believe that Mary has visited her in at least two years.’
- j. *Janez ni verjel/ne verjame, da bo Marija odšla vse do jutri.
 ‘John didn’t believe Mary would leave until tomorrow.’ (Slovenian)
- k. *Ivan ne vjeruje da ju je Marija posjetila najmanje dvije godine.
 ‘Ivan doesn’t believe that Mary has visited her in at least two years.’
- l. *Ivan nije vjerovao da će Marija otići sve do sutra.
 ‘Ivan didn’t believe that Mary would leave until tomorrow.’ (SC)
- m. *Jan nevěří, že Marie ji navštívila nejméně dva roky.

tomorrow’ and ‘John believes/claims Mary has not visited her in at least two years’. The judgments are given only for these readings. Several examples have other readings which I have ignored (e.g. ‘return tomorrow’ for ‘leave until tomorrow’). For space reasons I omitted base-line data like (104-105). I gave both an NR and a non-NR verb for NR languages to show that we are dealing with clause-mate NPIs. (The distinction is not relevant in non-NR languages.)

- ‘John doesn’t believe Mary has visited her in at least two years.’ (Czech)
- n. *Jan nie wierzył, że Maria wyjedzie aż do jutra.
 ‘John didn’t believe that Mary would leave until tomorrow.’ (Polish)
- o. *Yuehan bu/cai, xiangxin Mali zhidao mingtian hui likai.
 ‘John didn’t believe that Mary would leave until tomorrow.’ (Chinese)
- p. *John [Mary o-nu en az iki yıl ziyaret et-ti] san-mı-yor.
 ‘John doesn’t believe that Mary has visited her in at least two years.’
- q. *John [Mary yarın-a kadar ev-den ayrıl-acak] san-ma-dı.
 ‘John didn’t believe that Mary would leave until tomorrow.’ (Turkish)
- r. *Jon-wa [Mary-ga ashita made syuppatsu suru darou to] sinzi-nakatta.
 ‘John didn’t believe Mary would leave until tomorrow.’ (Japanese)
- s. ??John-un [Mary-ka eccey-kkaci-to ttena-l kes-irako] mitci ahn-ass-ta.
 ‘John didn’t believe that Mary would leave until tomorrow.’ (Korean)
- t. *Ivan ne veril, čto Marija uedet až do zavrašnega dnja.
 ‘Ivan did not believe that Mary would leave until tomorrow.’
- u. Ivan palec o palec ne udaril, čtoby mne pomoč.
 relevant reading: ‘Ivan did not do anything to help me.’
- v. *Džon ne verit, čto Ivan palec o palec udaril, čtoby mne pomoč.
 ‘John does not believe that Ivan did anything to help me.’ (Russian)

Interestingly, even in languages where the NPI licensing under NR test fails, negation seems to be interpretable in the lower clause. Thus, (109) allows the “atheist” (i.e. non-agnostic) interpretation “Ivan believes God does not exist”. (The same holds for Korean, Japanese, Turkish, Chinese, Polish, Russian, and Slovenian). Still, (108k-l) are ungrammatical.

- (109) Ivan ne vjeruje da bog postoji. (SC)
 Ivan neg believes that God exists

This suggests that there is actually a three way split among verbs with respect to NR: (a) negation interpreted in the lower clause and strict NPIs licensed under NR (possible only for some verbs in languages with articles) (b) negation interpreted in the lower clause, strict NPIs not licensed under NR c. no NR at all. In work in preparation with J. Gajewski we argue the lower clause negation interpretation is actually a pragmatic effect along the lines of Horn (1989), whereas strict NPI licensing is a semantic effect (assuming a semantic approach to NPI licensing). The reader should bear in mind the above restriction regarding what I consider NR in (102).

Next, there is the generalization in (110).

- (110) MWF languages without articles do not display superiority effects in examples like (52)-(53).

Recall MWF languages differ regarding whether they show Superiority effects in examples like (52)-(53). Interestingly, MWF languages without articles (SC, Polish, Czech, Russian, Slovenian, Mohawk) don't show them. MWF languages that do show them all have articles (Romanian, Bulgarian, Macedonian, Basque, Yiddish). Hungarian is an exception (it has articles and no superiority), which, however, doesn't violate (110).⁶

Another new generalization concerns clitic doubling. It is allowed in only two Slavic languages, Bulgarian and Macedonian (cf. *Ivo go napisal pismo* 'Ivo it wrote the letter'), which also have articles. Slavic languages that do not have articles disallow it. More generally, all clitic doubling languages I am aware of (Albanian, Macedonian, Bulgarian, Greek, Somali, Spanish, French (some dialects), Catalan, Romanian, Hebrew, Arabic, Dutch (some dialects)) have articles. We then have (111).

- (111) Only languages with articles may allow clitic doubling.

Turning to adnominal genitive, Willim (2000) notes English, Arabic, Dutch, German, and Catalan, all article languages, allow two lexical genitive arguments of the noun, where the genitive is realized either through a clitic/suffix or a dummy P. On the other hand, articleless languages Polish, Czech, Russian, and Latin disallow two lexical genitives. The same holds for SC, Chinese, Quechua, and Turkish. (Compare German *Hannibals(gen) Eroberung Roms(gen)* 'Hannibal's conquest of Rome' with Polish **podbicie Rzymu(gen) Hannibala(gen)*, which is unacceptable regardless of the word order.). Willim's observation leads to the generalization in (112).⁷

⁶ There is some idealization of the judgments here, since I ignore some speaker variation within particular MWF languages. Note also that there is an issue with respect to Hungarian since Watanabe (2003) suggests the traditional definite article in Hungarian is not a D-element (the status of Hungarian is thus unclear).

⁷ (112) concerns only nominal arguments, not possessives. I ignore for obvious reasons languages (e.g. Japanese) allowing multiple identical case constructions.

(112) Languages without articles do not allow transitive nominals with two lexical genitives.

Next, Živanović (2006) notes (114) has the majority reading where more than half the people drink beer. The reading is missing in Slovenian (113), which has the reading where more people drink beer than any other drink though it could be less than half the people (the plurality reading. Beer is focused.) Živanović notes German, Dutch, Hungarian, Farsi, Macedonian, and Bulgarian, which have articles, allow the majority reading. The reading is disallowed in Czech, Polish, SC, Chinese, Turkish, and Punjabi, which lack articles and allow only the plurality reading. This then leads to (115).

(113) Največ ljudi pije pivo.

(114) Most people drink beer.

(115) Only languages with articles allow the majority superlative reading.

Finally, two correlations that don't concern Slavic. There is a locality distinction among languages with head-internal relatives (HIR): HIR in Japanese, Quechua, Navajo, and Mohawk display island sensitivity, which is not the case with Lakhota and Mojave (see Bošković in preparation and references therein). Interestingly, the former group lacks articles, while Lakhota and Mojave have them. We then have (116). Finally, Baker (1996) notes (117).

(116) Head-internal relatives display island-sensitivity in languages without articles, but not in languages with articles.

(117) Polysynthetic languages do not have articles.

The above generalizations lead to the following conclusion: There is a fundamental difference between TNP in English and articleless languages like SC which cannot be reduced to phonology (overt vs phonologically null articles). If we posit DP for both, we need to make a radical principled distinction between D in English and SC. Appealing to phonological overtiness will not work since English, e.g., disallows LB (88), adjunct extraction from TNP, and scrambling even when D is null. Moreover, we are dealing with syntactic/semantic, not phonological phenomena here. It is often assumed TNP should be treated in the same way in articleless languages and English for the sake of uniformity.

However, the argument fails on empirical grounds: it is simply a fact that there are radical differences between the two—there's no uniformity here. Bošković (2005, in preparation) shows there is an easy way of capturing the differences: they can be captured if there is DP in the TNP of English, but not articless languages like SC.⁸ As shown in Bošković (2004) for scrambling, Bošković (2005) for LB, and Bošković (in preparation) for other relevant generalizations, all the generalizations in question can be deduced under the DP/NP analysis. In the next section I briefly summarize my (2005) account of LB, developing further an argument from this work. For deductions of other generalizations, see the works cited above.

2.2 *Back to Left-Branch Extraction*

Bošković (2005) gives two accounts of (91). The first one is based on the Phase-Impenetrability Condition (PIC), which says only the head and the Spec of a phase are accessible for movement outside of the phase. (This means phrasal movement out of XP must proceed via SpecXP if XP is a phase.) On a par with Chomsky's (2000) proposal that CP but not IP is a phase, I suggest DP is a phase, but NP isn't. Given the PIC, XP can then move out of DP only if it first moves to SpecDP. There are two more ingredients of the analysis: the traditional assumption that AP is adjoined to NP and the Anti-Locality hypothesis (the ban on movement that is too short), which is derivable from independent assumptions and argued for by a number of authors (e.g., Bošković 1994, 1997, Abels 2003, Grohmann 2003, Ticio 2003, Boeckx 2005, Jeong 2006). Like most other approaches to anti-locality, the version of anti-locality adopted in Bošković (2005) requires movement to cross at least one full phrasal boundary (not merely a segment of a phrase). AP then cannot move to SpecDP in (118) due to anti-locality. Given the PIC, it cannot move directly out of DP either (119). Anti-locality/PIC thus prevent AP extraction from DP, banning AP LB in English. They don't ban all movement out of DP: (120) is still allowed.

(118) * [_{DP} AP_i [_{D'} D [_{NP} t_i [_{NP}....

⁸ I don't rule out the possibility that the differences could be captured in a uniform DP analysis. Such an analysis would have to posit a radical difference in the syntax/semantics of DP in English and languages like SC. However, I am not aware of such uniform DP accounts. In fact, uniform DP accounts generally ignore the above generalizations, which are the most serious problems for them.

(119) * AP_i [DP [D' D [NP t_i [NP....

(120) Who_i do you like [DP t_i [D' D [NP friends of t_i]]?

The ban on adjunct extraction from TNP in English can be accounted for in the same way as the ban on AP LB, given that NP adjuncts are also adjoined to NP. Moreover, the PIC/anti-locality problem doesn't arise in SC, since DP is lacking in the relevant examples.

Bošković (2005) observes LB in traditional A-as-the-head examples is allowed in SC, which also follows given that AP is not a phrase.

(121) Novim_i je on [AP [A' zadovaljan [NP t_i [NP poslom]]].

new is he content job

'He is content with his new job.'

Interestingly, AP LB is banned in the presence of another adjective. (Bošković 2005 notes that the ban doesn't hold for all classes of As and that strong contrastive focus on one A improves unacceptable examples; see Bošković 2005 for an account of these facts.)

(122) * Visoke je on vidio lijepe djevojke.

tall is he seen beautiful girls

(123) cf. Visoke je on vidio djevojke.

'He saw tall girls.'

Bošković (2005) gives an account of (122) based on McGinnis's (1998) Principle of Lethal Ambiguity, which says two elements equidistant from K are lethally ambiguous for attraction by K if they are featurally non-distinct. Since double AP LB involves a lethal ambiguity configuration ([NP AP [NP AP [NP N]]]), LB of either AP is banned.

In Bošković (2005) I also propose an alternative account of AP LB based on the proposal that both the traditional structure where NP covers AP, and Abney's (1987) A-as-the-head analysis are correct, but for different languages. In particular, in English A takes NP as its complement (the AP option), while in SC N takes AP as its Spec (the NP option; NP adjunction would also work). The parametric difference is tied to DP. I assume the AP option is the default, but AP cannot be an argument. This means that when DP is lacking, as in SC (but not English), NP must dominate AP. This gives us a very simple account of English: AP LB is impossible in English because it would involve extraction of a non-constituent (AP is not a constituent to the exclusion of the NP in [DP

$D_{[AP\ A\ [_{NP}\ N]]}]$) The problem doesn't arise in SC, where the structure is $[_{NP}\ AP\ N]$. (The analysis, however, doesn't extend to the ban on adjunct extraction from TNP.)⁹

I also gave several arguments for an A/N difference in the headedness of TNP in English and SC. (124) shows prenominal adjectives disrupt case assignment in English (*him* bears default acc instead of nom). This is easily accounted for in Abney's system, where A shields the pronoun from outside case assignment as an intervening head.¹⁰ SC (125) differs from (124), suggesting Abney's analysis shouldn't be applied to SC. Note that the case of the pronoun changes in an acc. context, which shows we aren't dealing with a default case (nom. is impossible in (125b)). Note also that Russian behaves like SC.

(124) The real him/*he will never surface.

(125) a. Pravi on se nikad neće pojaviti. (SC)

real_{NOM} he_{NOM} refl never neg+will show-up
'The real him will never show-up.'

b. Vidjeli smo pravog njega.

seen are real_{ACC} him_{ACC}
'We saw the real him.'

(126) a. Sil'naja ja smogu ego predolet' (Russian)

strong_{FEM.NOM} I_{NOM} will-manage him overcome
'The strong me will be able to overcome him.'

b. On ne može predolet'sil'nuju menja.

he neg will-manage overcome strong_{FEM.ACC} me_{ACC}
'He will not be able to overcome the strong me.'

As expected, in Macedonian, which has articles hence should be an AP language, an intervening A does disrupt case assignment—the pronoun must bear the default case, which is nom. (The case doesn't change in (127b)).

⁹ Note that some DP languages, e.g. German (see Čavar and Fanselow 2000), allow an NP modified by an adjective to move alone (this is not fully acceptable in SC, see Bošković 2005). This is not surprising: since NP is the complement of A, AP cannot be extracted without NP, but NP is in principle extractable out of AP (provided there are no other interfering factors) in DP languages.

¹⁰ An A of a DP language doesn't seem to disrupt Case assignment to the N it modifies. I speculate the N gets its case via agreement with the D of the DP dominating the A, i.e. the V directly Case-marks the D, not the N.

Interestingly, if the pronoun is fronted (127c), it can bear structural acc. This is not surprising, since as a result of the fronting, the A no longer intervenes between the V and the pronoun. The contrast in (127b-c) confirms the intervention analysis (see Bošković 2005 for more evidence for the A/N difference in the headedness of TNP in English and SC).

- (127) a. Vistinskiot toj nikogas ne ke se pojavi. (Macedonian)
 the-real he never neg will refl. show-up
 ‘The real him will never show up.’
 b. Go vidov vistinskiot toj/*nego.
 cl. saw the-real he/him
 ‘We saw the real him.’
 c. Go vidov vistinskiot.

There are two alternative analysis of LB. Franks and Progovac (1994), who adopt Abney’s analysis for SC, propose a remnant movement (RP) account (see also Abels 2003, Bašić 2005), where LB involves NP movement followed by remnant AP movement (128). Čavar & Fanselow (2000) propose a copy and delete (CD) analysis, where split constituents are derived via scattered copy deletion rather than subextraction (129).

- (128) [_{AP} Lijepa t_i]_j on gleda t_j [_{NP} kuće]_i.
 beautiful he is-watching houses
 (129) [Lijepa kuće]_i on gleda [_{NP} ~~lijepa~~ kuće]_i.

The analyses fail to capture the relevance of presence/absence of DP for LB and fail to extend to adjunct extraction. As shown in Bošković (2005), they face numerous additional problems. To mention just one, the RP analysis fails to account for the contrast in (121)-(122), while the CD analysis seriously overgenerates in that it rules in a number of unacceptable split-constituent examples (it is simply way too unconstrained). Consider also Bošković’s (2005) extraordinary LB, where a P+A complex is fronted.

- (130) * [Pravo u veliku sobu] je on ušao [pravo u veliku sobu].
 straight in big room is he entered
 (131) U veliku je on ušao sobu.

Clitic placement in (131) shows the P+A complex is a constituent. Bošković (2005) argues the constituent is created via movement (which doesn’t

depend on the clitic status of P) internal to the extended projection of the PP (ExPP); basically, the adjective moves to SpecExPP, the P then adjoins to it, so that further movement of it carries the P along. (130) is ruled out because *pravo* is located in SpecExPP, where the P+A complex is formed. On the other hand, (130) is unaccounted for under the CD analysis, given the indicated deletion. In fact, (130) provides evidence that extraordinary LB doesn't involve PP movement, as in the CD analysis.

2.3 Looking for D in the Traditional NP in SC

Let us now consider arguments against DP in TNPs of articleless languages that are independent from the generalizations in section 2.1. I will discuss the issue with respect to SC. First, SC lacks articles, the prototypical D⁰. Though SC doesn't have articles, it does have items like *that*, *some*, as well as possessives. However, there is a lot of evidence that these items are adjectives in SC. First, they are morphologically adjectives (132). (Occasional departures from this pattern, such as those found in Russian, don't necessarily show the elements in question are not adjectives in Russian, just like the *go-went* pair doesn't show *go* is not a verb.)

(132) a.	<i>tim</i>	<i>nekim</i>	<i>visokim</i>	<i>djevojkama</i>
	those _{FEM.PL.INST}	some _{FEM.PL.INST}	tall _{FEM.PL.INST}	girls _{FEM.PL.INST}
b.	<i>tih</i>	<i>nekih</i>	<i>visokih</i>	<i>djevojaka</i>
	those _{FEM.GEN.PL}	some _{FEM.GEN.PL}	tall _{FEM.GEN.PL}	girls _{FEM.GEN.PL}

Second, in contrast to English, the SC elements in question can occur in typical adjectival positions. Thus, in (133) a possessive occurs in the predicate position of a copula. (For English examples, see the glosses.)

- (133) Ova knjiga je moja.
*this book is my

Third, unlike in English, these elements can stack up in SC, just like Adjs.

- (134) ta moja slika
* this my picture

They also have some freedom of word order. While in English DP elements must precede adjectives, SC allows adjectives to precede some

DP elements from English. (As is well-known, adjectives also have some freedom of word order (cf. *tall angry men* vs. *angry tall men*)).

- (135) a. Jovanova bivša kuća
 Jovan's former house
 b. bivša Jovanova kuća
 * former John's house

Order permutations can have a semantic effect. So, (135b) can only refer to the house John formerly owned. To refer to an object John now possesses and that was once formerly a house (135a) must be used. (Russian *Byvšij Mišin dom/Mišin byvšij dom* pattern with (135) in this respect.) Note also that I am not saying here that the order of the SC elements in question, or adjectives in general, is completely free (contrary to what is reported in Pereltsvaig 2005). What is important is the contrast between SC and English regarding the permutability of true adjectives and some traditional "D" elements. The order of true adjectives with respect to each other, which follows from semantic and prosodic (not syntactic) factors (see the data in Pereltsvaig 2005), is not expected to be any freer in SC than in English.

Next, a SC prenominal possessive (*susjedov* in (136)) cannot be modified by a possessive, or more generally, an adjective. ((136) is acceptable on the implausible reading where *moj/bogati* modifies *konj*.)

- (136) *moj/bogati susjedov konj
 my/rich neighbor's horse

Assuming an adjective cannot be modified by an adjective, (136) follows if SC possessives are indeed adjectives. Note also that although Russian behaves like SC in this respect (**moj/bogatyj sosjedov kon'*), Pereltsvaig (2005) argues such examples are irrelevant in Russian since they are ruled out independently because a possessor cannot be modified in Russian (even by an adverb). Note, however, that the simple possessor requirement clearly doesn't hold in SC. In fact, it doesn't seem to hold in Russian either.

- (137) Etot mjač nemnožko tvoj, nemnožko mamin. Net, etot mjač
 this ball a-little yours, a-little mom's no, this ball
 tol'ko mamin/Net, eto tol'ko mamin mjač.
 only mom's.

Elements that function as Ds in English are thus either missing or clearly not Ds in SC, which should be taken as an argument in favor of the no-DP analysis of SC. Notice also that Chierchia (1998) convincingly shows the DP layer is not needed for argumenthood, as is often assumed, which removes a potential semantic argument for DP in SC. Most importantly, while I am unaware of any explanations of the generalizations from section 2.1 under the universal DP analysis, they can all be explained under the DP/ NP analysis, as shown in Bošković (2005, in preparation) and section 2.2.

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Why Clitics Cannot Climb out of CP: A Discourse Approach*

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1 Introduction

As is well-known, clitics do not need to stay in the same clause in which they originate. Under some circumstances they can move into a higher clause. This phenomenon is referred to in literature as *clitic climbing*. It is exemplified in (1). (All the data come from Czech, unless stated otherwise.)

- (1) Honza **ho_i** chce sníst *t_i*
Honza him_{ACC} wants eat_{INF}
'Honza wants to eat it.'

In this example the clitic *ho* 'him' is the argument of the embedded infinitival clause (the internal argument of the verb 'to eat') but it surfaces in the clitic position (=the Wackernagel position) of the matrix clause.¹

Two more examples of clitic climbing are given in (2a) and (2b):

- (2) a. M^áma mi **ho_i** zakazovala jíst *t_i*
Mother me_{DAT} him_{ACC} forbid eat_{INF}
'Mother forbade me to eat it.' [Czech National Corpus]

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¹ For readability purposes I **boldface** every relevant clitic (every clitic that undergoes clitic climbing) and coindex it with *t* in the clause in which the clitic originates.

- b. *ale stále nás ho_i nutila jíst t_i*
 but always us_{ACC} him_{ACC} forced eat_{INF}
 ‘...but she always forced us to eat it.’ [Lenertová 2004]

As should be clear from examples (1)-(2b), clitic climbing can cross the boundary of an infinitival clause. Thus, one might be tempted to say that clitic climbing is an instance of \bar{A} -movement. However, clitic climbing is not as free as \bar{A} -movement in every case. Junghanns (2002), Lenertová (2004) observe that in Czech it cannot cross the CP boundary. (3a) shows that clitics cannot move out of a clause that is headed by the inflected *aby*-complementizer. (3b) shows that a *wh*-infinitival clause is an island for clitic climbing, as well.

- (3) a. * *Podle mě ho_i chtěla, abychom navštívili t_i*
 According me him_{ACC} wanted compl_{IPL} visit
 ‘According to me she wanted us to visit him.’
 b. * *Ale nevím ho_i opravdu, jak zapisovat t_i*
 But not-know him_{ACC} really how record_{INF}
 ‘But I really do not know how to record it.’ [Lenertová 2004]

Crucially, CP is not an island for \bar{A} -movement in Czech (exemplified here on *wh*-movement):

- (4) a. *Koho chceš, abychom navštívili?*
 Who want compl_{IPL} visit
 ‘Who do you want us to visit?’
 b. *Co nevíš, jak zapisovat?*
 What not-know how record_{INF}
 ‘What don’t you know how to record?’

This is the puzzle: why is clitic climbing more restricted than instances of \bar{A} -movement? In particular, why does CP block it? The rest of the paper provides an answer to this question.

The paper is organized as follows: the next section summarizes previous accounts of the puzzle and discusses their shortcomings. After that another explanation is developed which is based on two facts. First, it is demonstrated that movement out of CP is possible only under special discourse conditions (section 3). Second, it is shown that clitics cannot express the discourse functions that are required for movement out of CP.

If both of these claims are right, the explanation for the puzzle follows (section 5). However, this explanation also leads to some interesting consequences. As shown in section 5, the presented explanation is only applicable if movement is not triggered by discourse interpretation but rather, discourse interpretation is a mere consequence of independently-triggered movement (in line with Chomsky 2001, but *contra* Sturgeon's 2006 work on Czech).

2 Previous Accounts

There have been at least three accounts in Slavic literature that try to explain why clitic climbing is more restricted than \bar{A} -movement.

Progovac (1993)² makes two assumptions. First, clitics right-adjoin into C. Her second assumption is that clitics cannot undergo successive-cyclic movement. Thus, CP creates the first landing site for clitics but also a position from which clitics cannot move any further.

Of course, this story is successful only if one can find an independent support for each of the two hypotheses. Unfortunately, that is far from clear. First, Bošković (2001) presents handful of arguments against the assumption that clitics in Serbian are located in C. Some of these arguments are applicable to Czech, as well.³ Second, it is not clear why clitics should not be able to undergo successive-cyclic movement. This property is not derived, it is just stipulated in order to get empirical facts right. Of course, an analysis that avoids such a stipulation is preferable.

The second approach is presented in Veselovská (1995). Veselovská (1995) follows Rizzi's (1982) account of clitic climbing in Italian and suggests that clitics in Czech are heads. As such, they are subject to the Head Movement Constraint. Therefore, when moving out of the CP they cannot skip the intervening C-head. This has originally been assumed for Italian to account for the difference between (5a) and (5b):

² Her account has been developed to deal with Serbian data which I will say nothing about. My main concern is to see whether this approach could be applicable to the puzzle that I am focusing on.

³ Surprisingly enough, not all are. VP ellipsis cannot split the clitic cluster and adverbs retain subject-oriented reading even when preceded by pronominal clitics. Golden (2003) discusses differences between Serbian and Slovenian with respect to some other tests. Czech behaves like Slovenian and unlike Serbian.

- (5) a. Non ti_i saprei che dire t_i
 Not you know what tell
 'I would not know what to tell you.'
- b. *Non lo_i saprei se consigliare t_i
 Not him know whether to advise
 'I would not know whether to advise him.'

In (5b) *se* sits in the C. Therefore, the clitic *lo* cannot pass it on its way up to the higher clause. *Che* 'what' in (5a) is a phrase that sits in Spec, CP and therefore, the clitic can move across it into the matrix clause.

Unfortunately, this nice correlation breaks down once one discusses more data. As Cinque (2003) points out, clitic climbing out of CP is severely restricted. Other verbs than *sapere* do not allow it, as shown on *dire* 'tell' in (6):

- (6) *Me lo_i ha ditto a chi dare t_i
 Me it have told to whom give
 'He told me to whom to give it.' [Cinque, 2003, ex. 35c]

Notice that *a chi* 'to whom' is a phrase and thus is located in Spec, CP. Thus, under Rizzi's (1982) account this sentence is expected to be grammatical, contrary to the facts. Furthermore, Cinque notes that the difference between (5a) and (5b) has probably another source. The right generalization is, according to him, that clitic climbing out of a wh-clause is possible only if the sentence allows for a rhetorical reading without the wh-phrase. Whereas (5a) is equivalent to *Non ti saprei dire niente* 'I would not be able to tell you anything' there is no equivalent paraphrase of this type for (5b). This descriptive generalization cannot be captured by employing the Head Movement Constraint.

But no matter what the right explanation for the Italian facts are, it is important for the present discussion that in Czech there is no contrast between counterparts of (5a) and (5b):

- (7) a. * Já mu nevím, jakou historku říct
 I him not-know what story tell_{INF}
 'But I really do not know what to tell him.'
- b. * Já mu nevím, zda říct pravdu
 I him not-know whether say_{INF} truth
 'I do not know whether to tell him truth.'

Since *jakou historku* ‘what story’ is a phrase, the ungrammaticality of (7a) is unexpected if constraints on clitic climbing should follow from the Head Movement Constraint. Besides, clitics *can* climb across verbs or negation, which are heads *bona fide*. To conclude, as far as I know, there is no evidence that clitic climbing in Czech is subject to the Head Movement Constraint.

The third approach to clitic climbing is advocated in Rezac (2005). He assumes that clitic climbing is A-movement driven by the clitic’s need to get its Case licensed.⁴ This explains the fact that clitics cannot escape CP – since every A-movement is confined to a local TP (whatever the explanation is for such a fact; see, for example, Chomsky 2000). However, in order to make this account fully work one would have to show that infinitival clauses from which clitics can move are smaller than TPs (in fact, they must be smaller than vPs – otherwise object clitics would not be able to move out). Rezac (2005) follows Wurmbrand (2001) and assumes that some verbs (so-called restructuring verbs) can subcategorize for a VP infinitival complement (restructuring infinitives). He argues that clitics can climb out of restructuring infinitives only.

However, this explanation is quite problematic. First, Wurmbrand (2001) shows for couple of unrelated languages that restructuring verbs constitute a small set. This set includes verbs like *try*, *manage*, *allow*, but not many more. On the other hand, clitic climbing in Czech is unrestricted. Clitics can climb out of any infinitival clause provided it is not a CP. In a corpus study (Dotlačil 2005), I went through around 30 verbs that embed infinitives. None of them is incompatible with clitic climbing. If these were all restructuring verbs, Czech would present quite an anomalous case cross-linguistically (compare this to clitic climbing in Italian or Spanish, which does occur only with handful of verbs).

Second and more importantly, I believe that there are empirical problems with Rezac’s approach.

Rezac’s argumentation that clitic climbing is possible out of VPs only is based on arguments like the following. If they were just VPs, they should lack the subject (PRO): this is a testable prediction. Since Czech has subject-oriented possessive anaphors like *svůj* (I gloss it as ‘self’s’), it is expected that in case of clitic climbing the anaphor could not be bound

⁴ Rezac’s approach aims not only to explain restrictions on clitic climbing but also other issues, like clitic co-occurrence restrictions. Since this is irrelevant to the topic of this paper, I do not discuss these issues here.

by the infinitival subject (since the infinitival subject must be missing). Rezac claims that this is right, as witnessed by the following example (Rezac's judgments):

- (8) * Pavel_i je_k Janovi_j přikázal dát t_k svým_{i/j} přátelům
 Pavel them_{ACC} Jan_{DAT} ordered give_{INF} self's friends
 'Pavel ordered Jan to give them to his friends.'

Here, *svým* cannot be bound by the infinitival subject (co-referential with 'Jan') because climbing occurred and therefore, according to Rezac, the subject is missing. Furthermore, *svým* cannot be bound by the higher subject (independent lexical property of the possessive anaphor in Czech). Data of this type would quite strongly support Rezac's account. However, I personally find this data very weak. For myself, the sentence in (8) is ok (both interpretations of *svým* are possible).⁵

Another problem for Rezac's approach has been noticed by Lenertová (2004). If clitic climbing was driven by the need of Case licensing we would expect it not to occur if the higher clause cannot license the clitic's Case. But that is wrong. For example, accusative clitics can climb into clauses that are deprived of the ability to license accusative (passives, unaccusatives).

I conclude that neither of these approaches is satisfactory. In the rest of the paper, I am going to develop my own account. Before doing so, I would like to stress the general idea that lies behind it. Notice that all the previous analyses have something in common. They assume that clitics have special syntactic property (they are located in C (Progovac, 1993), they are heads and must obey the Head Movement Constraint (Veselovská, 1995), they can only undergo A-movement (Rezac, 2005)). I want to go a different way: throughout the rest of the paper I assume nothing special about the syntactic properties of clitics. For my story to work, they do not need to differ from phrases in this respect. However, it is their interface properties that set them apart from phrases. Clitics cannot be interpreted contrastively. As the next section is going to show, contrastive interpretation is necessary for every non-wh-phrase that moves out of CP.

⁵ See also a review in *Linguistlist* (16.3131). The Czech reviewer points out that she finds this example grammatical.

3 Restrictions on \bar{A} -movement

3.1 How Movement Out of CP Cannot Be Interpreted

If we understand every sentence as an answer to some (usually unpronounced) question then we can always divide the sentence into two parts: a part that answers the question (focus) and a part that does not (appearing under many different names in the literature; for example, topic, background, etc.).

As is well-known, discourse notions as topic and focus do play a role in the language. In particular, movement can force one discourse interpretation over the other. It is interesting to note that the movement out of an infinitival clause and movement out of CP differ in this respect. The former is felicitous if the moved phrase is interpreted as a topic. This is not true for the latter.

This is shown in the following example. (9) introduces the context and the question which (10) is an answer to. In this context the phrase *s ním* ‘with him’ in (10) becomes the topic part of the sentence.

(9) Context:

Marie had a friend Jirka but they had an argument a short time ago.
According to you, how does she approach him since then?

- (10) a. Podle mě s ním od té doby nechce mluvit.
According me with him from this time not-want talk
‘According to me she does not want to talk to him anymore.’
- b. Podle mě (#s ním) od té doby nechce, abychom
According me (with him) from this time not-want compl_{1SG}
(s ním) mluvili
(with him) talked
‘According to me she does not want us to talk to him anymore.’

Notice that *s ním* ‘with him’ as a part of topic can move out of the infinitival clause in (10a). However, its movement out of the CP is infelicitous (marked by # in (10b)).

As I am going to show in next sections, one needs to interpret a phrase as a contrastive topic (section 3.2 and 3.3) or focus (section 3.4) in order to make movement out of CP felicitous.

3.2 Contrastive Topic⁶

Interpreting a syntactic constituent as a contrastive topic has consequences on both the phonological and the semantic/pragmatic side. On the phonological side, the contrastive topic is pronounced with a rising pitch in Czech (Veselá et al., 2003). On the semantic/pragmatic side, Büring (1997), which I am going to follow, distinguishes two basic functions of contrastive topic.⁷

First, contrastive topic can be used to shift the topic of the previous question. For example, in (11) Marie is the topic brought up by the question. This topic is shifted in B's answer; however, this shift is only possible if the new topic is marked as contrastive on the phonological side – i.e., it must be pronounced with rising pitch.

- (11) A: Koho políbila Marie?
 B: No, Natálka políbila Honzu.
 A: Who did Mary kiss?
 B: Well, Nathalie kissed Honza.

To explain the second use of contrastive topic, I need to introduce the alternative semantics theory of focus. Following Rooth (1985), let us assume that every syntactic node when assigned its meaning comes with two values: an ordinary value and a focus value. We get the focus value of a syntactic node if we substitute its focus part with its alternatives. For example, the sentence *John likes Mary* in which *Mary* is the focus has the proposition [[John likes Mary]] as its ordinary value. The focus value is the set of propositions {[[John likes x]]: x is Mary or any of the possible alternatives to her} = {[[John likes Mary]], [[John likes Nathalie]], [[John likes Susan]], ...}.

⁶ As with topic and focus, also this is by no means the only name that appears in literature. Apart from being called contrastive topic (Gyuris 2002, Büring 2003), it has also been called contrastive focus (Gundel 1994), topic (Büring 1997), or TOPIC-focus (Kadmon 2001).

⁷ To be more precise, he discusses three functions of contrastive topic but later on shows that one represents only a subtype.

Now, Büring (1997) notes that contrastive topic can be used to bring about the following implication:⁸ there is at least one alternative to the contrastive topic, such that if this alternative replaces the actual contrastive topic, the focus value (i.e., the set) is still open to discussion in the discourse.

Let us go through one example. A brief conversation:

- (12) A: Líbala se tvoje žena s jinými muži?
 B: Moje žena se s jinými muži nelíbala.
 A: Did your wife kiss other men?
 B: My wife didn't kiss other men.

In B's sentence, negation is focus. Let us assume that the focus value of the sentence is the set {[My wife kissed other men]}, [[my wife didn't kiss other men]]}.

Let us say that B wants *moje* 'my' to be contrastive topic. He marks it by pronouncing this word with rising pitch. This intonation goes hand in hand with the implication on the semantic side that there are alternatives to B's wife for which the focus value is open to discussion. For instance, even though B just says that 'my wife didn't kiss other men', by making 'my' contrastive topic, he is implicating that the following set is still open to the discussion (and A should probably inquire about it): {[your wife kissed other men]}, [[your wife didn't kiss other men]]}.

In the next section I am going to show that a constituent outside its CP does not cause ungrammaticality when interpreted as a contrastive topic. I will say nothing about the intonation. Instead I will only concentrate on the interpretation that the constituent moved out of CP triggers.

3.3 Movement Out of CP and Contrastive Topic

Let us go back to example (10b) and its context (9), repeated here:

⁸ The word implication is used here as a cover term for both implication and entailment. See Büring (2003), Gyuris (2002), Sturgeon (2006) for discussion on which of these notions is more appropriate.

- (13) Context:
Marie had a friend Jirka but they had an argument a short time ago. According to you, how does she approach him since then?
- (14) Podle mě (#s ním) od té doby nechce, abychom
According me (#with him) from this time not-want compl_{1PL}
(s ním) mluvili.
(with him) talked
'According to me she does not want us to talk to him anymore.'

What goes wrong with example (13) is that the context for this sentence does not support contrastive topic reading of the phrase that moved out of the CP (i.e., *s ním* 'with him') (I consulted this example with three speakers and indeed, they all did reject (13)).

What we need is the context that enables the implication which contrastive topic brings about; namely, the implication that the focus value of the sentence is still open to the discussion if the contrastive topic phrase is substituted with its alternative.

This implication is satisfied quite naturally in the following scenario: imagine that A is desperate to know whether Mary minds if he and B talk with some people. He then asks for each person in particular, what B thinks that Mary's attitude towards such a person is (15). In this conversation B can answer one of the questions by (16).

- (15) Context:
A: Vadí Marii, když budeme mluvit s Natálií? / B: Ne.
A: Vadí Marii, když budeme mluvit s Honzou?
A: Does Mary mind if we talk with Nathalie? / B: No.
A: Does she mind if we talk with Honza?
- (16) Podle mě (s ním) nechce, abychom (s ním) mluvili.
According me (with him) not-want compl_{1PL} (with him) talked
'According to me he does not want us to talk to him.'

The sentence is fine since 'with him' can be quite naturally understood as a contrastive topic. In other words, the context in (15) supports the implication that the contrastive topic puts forward: there are alternatives to *s ním* 'with him' for which the focus value is open to the discussion (namely, the other people that A is going to ask about).

A contrastive topic reading may not only be supported by the context, it may also be forced directly; for example, by using the lexical item *zato* (close in its meaning to ‘but’, or ‘on the other hand’). *Zato* is grammatical in a sentence in which there is a shift from one discourse entity to another (intuitively, this is reminiscent of topic shift with contrastive topic – see section 3.2). The phrase that introduces such an entity can move out of CP:

- (17) Context:
 Honza měl dva sourozence: Marii a Jirku. Jirku měl rád...
 ‘Honza had two siblings: Marie and Jirka. He liked Jirka...’
- (18) ...zato o Marii nechtěl, abychom mluvili.
 ...but about Marie not-wanted compl_{1PL} talked
 ‘On the other hand, about Marie he did not want us to talk.’

I should mention that acceptability judgments presented in this section are on a scale. As said above, all three speakers rejected (13) and (14). One speaker found (16) in the context (15) ok, two found it marginal (but still, better than (14)). I believe that the reason that (16) was not ok for all the speakers lies in the fact that even though the context in (15) makes the contrastive topic reading quite viable, it does not force it as the only possible one. It might be that two speakers still understood the phrase non-contrastively. Example (18) (which forces contrastive topic reading of the phrase as the only possible one) was ok for all three speakers.

It could also be shown that contrastive topic reading is necessary for movement out of wh-infinitival clauses but for reasons of space I refrain from doing so here.

3.4 A Note on *Wh-Movement*

In the preceding section I argued that movement out of CP is impossible if the phrase is interpreted as a topic but it is grammatical if the phrase is interpreted as a contrastive topic. However, this cannot be the end of the story. Notice that wh-movement out of CP is possible, as already shown in (4) and repeated here for convenience:

- (19) Koho chceš, abychom navštívili?
 Who want compl_{1PL} visit
 ‘Who do you want us to visit?’

I believe that the reason why (11) is fine is that wh-phrases are foci.

Surprisingly, movement of phrases which are not wh-words out of CP is degraded (even though not ungrammatical) even when this phrase is interpreted as a focus, as shown in (12) which represents an answer to (11) (and therefore, *Jirka* is the narrow focus of the sentence):

- (20) ?# *Jirku chci, abyste navštívili.*
 Jirka want compl_{1PL} visit
 ‘I want you to visit Jirka.’

However, the marked status of (20) has probably nothing to do with the fact that the phrase crossed the CP boundary; the marginal status of the sentence is probably caused by a general preference of leaving focus in situ. Even cases in which a focused phrase moves to the left edge of the clause without crossing the CP boundary are marginal.

- (21) Context:
 Co chceš číst?
 What do you want to read?

- (22) a. ?#*Murakamiho chci číst.*
 Murakami want read
 b. *Chci číst Murakamiho*
 want read Murakami
 ‘I want to read Murakami.’

I conclude that there is a difference between topic and focus/contrastive topic. A topic interpretation of a phrase is incompatible with movement out of CP. On the other hand, if a phrase receives a focus or contrastive topic interpretation it can move out of CP. For independent reasons, a focus interpretation is viable only for wh-phrases; the other phrases must be interpreted contrastively when surfacing outside of the original CP.

4 Clitics Cannot Be Contrastive Topics or Foci

We have one piece of the story: movement out of CP requires contrastive topic or focus interpretation. It remains to be shown that clitics cannot be interpreted this way.

First, notice that they cannot be the contrastive element in a sentence with *zato*:

- (23) **Zato ho** kritizoval.
 But him criticized
 ‘On the other hand, he CRITICIZED it.’

This sentence is fine but only under reading in which ‘read’ is interpreted contrastively, not ‘him’ (i.e., it could only be a follow-up of sentences like: *John didn’t read the latest novel of Haruki Murakami*).

Second, notice that clitics cannot trigger the implication that is typical for contrastive topic. There is no way for B to make the answer (25) to the question (24) to implicate that there are other men which A’s wife might have kissed.

- (24) Context:
 A: Políbila moje žena Jirku?
 A: Did my wife kiss Jirka?

- (25) **Nepolíbila ho**.
 Not-kissed him.
 ‘She didn’t kiss him.’

Finally, (26) and (27) show that clitics cannot be narrow foci in the sentence:

- (26) Context:
 Honza měl dva sourozence: Marii a Jirku. Koho měl rád?
 Honza had two siblings: Mary and Jirka. Which one did he like?

- (27) #**Nejradši ho** měl.
 best him had.
 ‘He liked him the best.’

In sum, (27), (25) and (23) suggest that interpreting clitics as focus or contrastive topic is impossible.

5 Analysis

Now, we are in the position to explain why clitics cannot climb out of CP: clitics do not allow focus/contrastive topic interpretation; however, this interpretation is necessary for every movement out of CP.

For the analysis, I take a recent development of Minimalism (Chomsky, 2001). I need to assume very little about the syntactic status of clitics. Probably, they undergo \bar{A} -movement like DPs.⁹ The nature of the movement trigger is unknown to me; for simplicity, let me say that clitics come with an uninterpretable feature [+clitic] which is deleted in the Agree relation with a head that carries the EPP feature (i.e., after establishing an Agree relation, the particular clitic moves to the specifier of the head). Furthermore, let us suppose that every clause might have a head which can get into an Agree relationship with a clitic. Of course, there are many other issues like clitic ordering (why are clitics only ordered the way they are?) or clitic placement (why are clitics in the Wackernagel position of the clause and not somewhere else?) which are not captured by what I said so far. But I consider that a good thing since the restriction on clitic climbing should follow from the (im-)possible interpretation of clitics and nothing else, and therefore the syntactic part of clitic climbing should remain as general as possible.

So far, there is nothing in the analysis that explains why clitics cannot climb out of CP. For that we have to turn to the other part of the analysis: discourse interpretation.

There are at least two ways we can think about the requirement of interpreting a constituent outside of its original CP as a focus/contrastive topic. The first one: (as assumed in Sturgeon, 2006) a phrase that is to be interpreted as a contrastive topic¹⁰ has two features: [contrastive topic] (which is interpretable) and [quantifier] (uninterpretable); the head that

⁹ I argued against the A-movement analysis in section 2. It would be interesting to find out whether an \bar{A} -movement analysis of clitic climbing can get other than negative support. For example, is it the case that clitic climbing licenses parasitic gaps or induces weak-crossover effect? Unfortunately, so far I leave these issues open, the main reason being that the status of these tests in Czech is not so clear. For example, it has been shown that weak-crossover effect does not arise with wh-movement in Czech (Sturgeon 2006).

¹⁰ Sturgeon (2006) talks only about a contrastive topic interpretation. The same reasoning could extend to a focus interpretation.

attracts contrastive topic also comes with two features: [contrastive topic] (uninterpretable), [quantifier] (interpretable). Moreover, the head has the EPP, hence movement of the contrastive topic. Now, both the goal and the probe are active so an Agree relation (and therefore, movement) might be established. It suffices to assume that the head appears in a higher clause: thus, the contrastive topic phrase must move out of CP otherwise uninterpretable features cannot be deleted (and the derivation crashes).

Even though this approach is quite straightforward, I deem it wrong. Notice that in this story, a phrase can move out of CP if it carries a feature that is deleted by a head in a higher clause. The feature might be contrastive topic. However, there is nothing in this analysis that forces every phrase outside of its CP to be interpreted as a focus/contrastive topic. In other words, a constituent can move out of its original CP as long as there is some head in a higher clause which has the EPP and the constituent and the head can enter Agree relation. Now, suppose we say that a higher clause hosts a head that has the EPP and enters Agree relation with a clitic in a lower clause (there is nothing so far that would prohibit such a scenario). In such case it would be possible for a clitic to climb out of its original CP. And this is *not* what we want.

The moral is, we need to make sure that *every constituent that moves out of CP* is interpreted as a focus/contrastive topic, otherwise we have no explanation of why clitic climbing out of CP is impossible. In other words, movement out of CP may be triggered by whatever feature; but it must always lead to the focus/contrastive topic interpretation. This is in line with Chomsky's suggestion (Chomsky, 2001) that movement is not driven by such considerations as discourse interpretation. A "dumb" computational system should be blind to such issues; it is just an independent property of interfaces that a phrase ends up being interpreted in a particular way.

Let us follow Chomsky's phase theory and assume that every constituent that moves to a higher phase must move through the phase edge. Furthermore, let us say that vPs and CPs are phases. Thus, every constituent that moves out of the CP must go through the CP edge. I suggest that there are two interpretative principles of the following type in Czech:

- (28) a. C-I: interpret every constituent that goes through the edge of CP as contrastive topic

S-M: assign rising pitch to every constituent that goes through the edge of CP

- b. C-I: interpret every constituent that goes through the edge of CP as focus

S-M: assign falling pitch¹¹ to every constituent that goes through the edge of CP

Assume this scenario: the constituent YP moves out of a non-CP clause:

[_{XP} YP_i ... [_{VP} [_{TP} ... t_i]]]

In this case, the interpretative principles in (28) are not triggered; YP does not have to be interpreted as a contrastive topic. Consequently, YP can be a clitic and the scenario might represent a case of clitic climbing.¹²

A second scenario: the constituent YP moves out of a CP clause:

[_{XP} YP_i ... [_{VP} [_{CP} ... t_i]]]

In this case, the interpretative principles in (28) kick in. Thus, YP must be interpreted either as a contrastive topic (28a) or a focus (28b). If YP is a clitic, the sentence becomes illicit.

Thus, I claim success. The original puzzle (why clitics cannot climb out of CP) has been derived from independent properties of clitics and movement out of CP. I take this result to be support of an approach in which discourse interpretation is not a movement trigger; rather a particular discourse interpretation is a consequence of independently triggered movement.

6 Conclusion

This paper offered an explanation of why clitics cannot climb out of CP and differ in this respect from ordinary DPs. It was proposed that the solution to the problem lies in the discourse properties: movement out of

¹¹ Falling pitch is typical for focus (see Veselá et al. 2003), apart from the parts that are given (Schwarzschild 1999).

¹² Of course, provided other conditions on movement are not violated (island constraints etc.)

CP leads to the focus/contrastive topic interpretation which is not available for clitics. It has been shown that pursuing this explanation leads one to the conclusion that contrastive topic cannot be a movement triggering feature.

There are many issues that I did not touch upon. One of them is why clitics cannot be contrastive topics. Another one is the exact account of focus and contrastive topic, the one that would not only concentrate on the interpretation of constituents that left the CP but would also have something to say about constituents interpreted in-situ. Still another question is whether the analysis presented here is challenged by other Slavic languages, or other languages that exhibit clitic climbing.

Hopefully, there will be opportunities for future research in which these issues can be taken up.

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Double Object Construction in Croatian: Arguments Against Appl^{0*}

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1 Introduction

This paper argues for the existence of the distinction between Double Object Construction (DOC) and *To-Dative* Construction (TDC) in Croatian, without making reference to an applicative head (Appl⁰) in the DOC. Instead, the goal in DOCs is analyzed as an argument of the verb, while the goal in TDCs is analyzed as selected by a special head H⁰. Examples (1) and (2) respectively show a DOC and a TDC in English.

- | | |
|-------------------------------|----------------------------|
| (1) John gave Mary a book. | Double object construction |
| (2) John gave a book to Mary. | To-dative construction |

At first glance, (1) and (2) seem to express the same meaning: they describe an event in which the theme, the book, was given to the goal, Mary, by the agent, John. On closer inspection, it becomes clear that the two structures are distinct not only in their syntax, but also in certain semantic properties. The characteristics associated with the DOC, but not with the TDC include the following:

a) *Ban against nominalizations* (Kayne 1984, Marantz 1993, Pesetsky 1995). A TDC can be nominalized, as shown by (3), while the DOC, in (4), cannot.

* I would like to thank Suzanne Flynn, Alec Marantz, Shigeru Miyagawa, David Pesetsky, Norvin Richards and Donca Steriade for their valuable comments and discussions of this and earlier versions of the paper. Thanks are also due to the audience at FASL-15 for their useful questions and reactions, as well as to an anonymous reviewer for his/her insightful comments. All remaining errors and omissions are my own.

- (3) the gift of the book to Mary
 (4) * the gift of Mary of the book

b) “*Causative reading*” (Oehrle, 1976). Ditransitive sentences that are instances of the DOC have a reading on which the subject is understood not as an agent, but rather as the cause of the goal’s coming to possess the theme. The causative reading of (1) is loosely paraphrased in (5). Sentences that instantiate the TDC do not allow for a causative reading. Thus (5) is not a possible paraphrase of (2).

- (5) If it weren’t for John, Mary would not have written her book.

c) *Rigid quantifier scope between the goal and the theme* (Aoun & Li 1989, Bruening 2001). If in a DOC, the goal and the theme arguments are quantified phrases, the goal obligatorily outscopes the theme, as shown in (6). By contrast, in the TDC, the scope is free, as in (7).

- (6) John showed a boy every coin. DOC: $\exists > \forall, * \forall > \exists$
 (7) John showed a coin to every boy. TDC: $\exists > \forall, \forall > \exists$

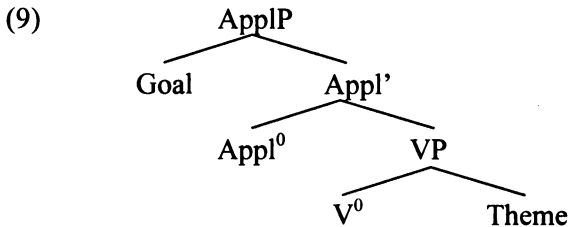
d) *Two-goal constructions* (Miyagawa & Tsujioka, 2004). In Japanese, the goal argument of verbs like *okuru* (‘send’) denotes either the possessor (*high goal*) or the location (*low goal*). The presence of a *low goal* (PP) forces the “possessor” interpretation of the *high goal* (DP).

- (8) Taroo-ga Hanako-ni Tokyo-ni nimotu-o okutta.
 Taro.nom Hanako.DAT Tokyo-to package.ACC sent
 ‘Taro sent Hanako a package to Tokyo.’

In (8), only the high goal, *Hanako-ni*, has the “possessor” interpretation (Hanako does not have to be in Tokyo to be understood as a prospective possessor of the book.) It has been noticed that in a DOC, the referent of the first object must be the prospective possessor of the referent of the second object (Gropen, Pinker et al., 1989). Thus, in a two-goal construction, only the DP that is obligatorily interpreted as the possessor of the theme corresponds to the goal argument in a simple ditransitive sentence. I take this correspondence to mean ‘be theta-marked by the same head and occupy the same syntactic position.’

The observed syntactic and semantic differences listed in a) – d) have

often been explained by appealing to an applicative head (Marantz 1993, Anagnostopoulou 2005, Ura 2000). Syntactically, Appl⁰ takes the VP as its complement, and the goal as its specifier, as illustrated in (9).



Its function is to establish a thematic relation between an “applied argument”, the goal, and the event described by the verb.

In this paper I examine ditransitive constructions in Croatian, showing that the contrast between the DOC and the TDC exists also in this language, contrary to what a superficial inspection of the data might make us believe. I argue that syntactic and semantic differences between the DOC and the TDC can be accounted for without making reference to Appl⁰, or any other functional head responsible for introducing and theta-marking the goal. I claim that when the goal in a ditransitive construction is interpreted as a possessor or beneficiary, it is an argument of the verb, introduced as its specifier. When the goal bears a different theta-role, then it is introduced by a syntactic head other than the verb.¹

The motivation for the proposed analysis comes from the following observations. First, syntactic and semantic properties of the DOC in Croatian that can be explained by an applicative analysis can equally well be explained by an analysis that does not posit Appl⁰. Furthermore, an applicative analysis proves to be empirically inferior to the alternative pursued here, when it comes to accounting for nominalization facts in a class of Croatian ditransitive constructions. Applicative analyses, in one way or the other, explain the ban on nominalizations in the DOC by the presence of Appl⁰ in the structure. We will see that in Croatian, some

¹ An obvious challenge for an analysis without Appl⁰ is to explain the source of the applicative affix in Bantu, which appears on the verb in cases when the verb valency is changed so as to include the benefactive argument and which has been analyzed as the spell-out of Appl⁰ (Baker, 1988; Marantz, 1993). See Marten (2003) for an alternative explanation for the appearance of the applicative suffix on the verb in Bantu languages Swahili, Bemba and Luganda.

ditransitive constructions freely nominalize, even though by all diagnostics they behave as DOCs, and should therefore contain Appl⁰. Thus, appealing to the crucial presence of Appl⁰ as part of the explanation of nominalization patterns fails to explain the Croatian data. Finally, the data from quantifier scope relations between the goal and the theme indicate that Appl⁰, if it were postulated, would have to be the only functional head in the structure that does not provide a scope domain. The inability of quantified phrases to raise to ApplP via Quantifier Raising (QR) makes Appl⁰ different from other functional heads, a property we would like to explain in a principled manner. An analysis proposed here, which does not posit Appl⁰ in the first place, avoids the problem altogether.

The paper is organized as follows: in the next section I present an overview of the claims particular to Croatian data, which I will be arguing for in the paper. Sections 3 and 4 present a conceptual and an empirical argument against an applicative analysis respectively. In section 5 I show how the properties of a problematic word order Verb...Dative...Accusative can be captured by the proposed analysis. Section 6 presents independent evidence for the functional head I posit in my analysis of the TDC. In section 7 I discuss the adequacy for the data at hand of an analysis that posits a low applicative head, and section 8 contains concluding remarks.

2 Croatian Data

Selectional properties of Croatian ditransitive verbs are similar to those in English, with one difference: Croatian ditransitive verbs never take an animate goal in the form of the PP.

- (10) a. Vid daje Hani poklon.
 Vid gives Hana_{DAT} gift
 ‘Vid is giving Hana a gift.’
 b.* Vid daje poklon u Hanu.
 Vid gives gift in Hana_{ACC}

Under neutral intonation, ditransitive sentences with animate goals appear in three different word orders, as shown in (11)-(13) below.

- (11) Dan Vidu daje knjigu. *D(ative)...V(erb)...A(ccusative)*
 Dan Vid_{DAT} gives book_{ACC}
 ‘Dan is giving Vid a book’

- (12) Dan daje knjigu Vidu. *V(erb)...A(ccusative)...D(ative)*
 Dan gives book_{.ACC} Vid_{.DAT}
- (13) Dan daje Vidu knjigu. *V(erb)...D(ative)...A(ccusative)*
 Dan gives Vid_{.DAT} book_{.ACC}

In the rest of the paper I examine these word orders against the properties of the DOC listed in a) – d) of the Introduction and argue that DVA is an instance of the DOC, and that VAD is an instance of the TDC. The discussion of the third word order, VDA, is postponed until section 5, where it will be shown that it is structurally ambiguous between the two.

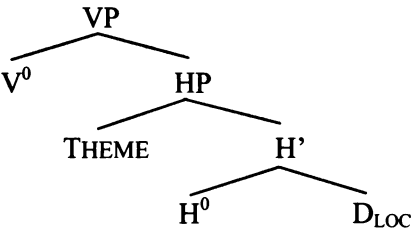
2.1 Two-Goal Constructions

In a Croatian sentence that contains two goals, a dative-marked DP (D) and a location PP, as in (14), varying the position of D affects its interpretation. While in (15), Vid is required to be in Zagreb for the sentence to be true, in (14), he can be anywhere, as long as he is the prospective possessor of the book. Moreover, (15) is vague as to who the intended possessor of the book is; it could be Vid, or it could be someone else, while Vid's place is merely the location where the book is sent. I take this to be evidence that in (14), D is interpreted as the possessor, while in (15) it is interpreted as a location.

- (14) Mia je Vidu poslala knjigu u Zagreb. *D...V...A...PP_{LOC}*
 Mia Aux Vid_{.DAT} sent book_{.ACC} in Zagreb_{.ACC}
 'Mia sent Vid the book to Zagreb.'
- (15) Mia je poslala knjigu Vidu u Zagreb. *V...A...D...PP_{LOC}*
 Mia Aux sent book_{.ACC} Vid_{.DAT} in Zagreb_{.ACC}

I would like to suggest that the D that precedes the verb is an argument of the verb, theta-marked as a possessor/beneficiary (D_{POSS}), while the D that follows the verb is an adjunct-like D denoting location (D_{LOC}). Thus, DVA instantiates a DOC, while VAD instantiates a TDC. Based on this observation, I propose that the DOC has the structure in (16), while the TDC has a more elaborate structure in (17). The functional head H⁰ establishes an *end-up-at* relation between the theme and D_{LOC}.

- (16)  *The structure for DOC*

- (17)  *The structure for TDC*

The structures I propose for the DOC and the TDC predict that it should be possible for the two datives to occur in the same sentence. This prediction is borne out, as shown by (18):

- (18) Vid je Danu poslao knjigu Hani. $D_{POSS}...V...A...D_{LOC}$
 Vid Aux Dan._{DAT} sent book._{ACC} Hana._{DAT}
 'Vid sent Dan the book to Hana (to Hana's place).'

The proposed structures account for c-command asymmetries that hold between D_{POSS} and theme on the one hand, and theme and D_{LOC} on the other. In a DOC, D_{POSS} asymmetrically c-commands the theme, while in a TDC the theme asymmetrically c-commands D_{LOC} . This is shown in (19) and (20), by the absence of binding between the quantifier and the variable in the (b) examples.²

- (19) a. Ivan je [svakom studentu]_i dao njegovu_i knjigu. $D_{POSS}...V...A$
 Ivan Aux every._{DAT} student._{DAT} given his._{ACC} book._{ACC}
 'Ivan gave [every student]_i his_i book.'
 b. *Ivan je njezinom_i vlasniku dao [svaku knjigu]_i.
 Ivan Aux her._{DAT} owner._{DAT} given every._{ACC} book._{ACC}
 *'Ivan gave its_i owner [every book]_i.'

² Relevant tests also show that D_{POSS} asymmetrically c-commands D_{LOC} . These data are omitted here for reasons of space.

- (20) a. Ivan je dao [svaku knjigu]_i njezinom_i vlasniku. *V...A...D_{LOC}*
 Ivan Aux given every_{.ACC} book_{.ACC} her_{.DAT} owner_{.DAT}
 'Ivan gave [every book]_i to its_i owner.'
 b. *Ivan je dao njegovu_i knjigu [svakom studentu]_i.
 Ivan Aux given his_{.ACC} book_{.ACC} every_{.DAT} student_{.DAT}
 'Ivan gave his_i book to [every student]_i.'

2.2 Causative Reading

Under neutral intonation, DVA sentences have a causative reading, while VAD sentences do not. This is obvious in examples such as (21), where the subject is non-agentive, and the only plausible reading the sentence might have is the causative one.

- (21) a. Rat je Krleži dao knjigu. *D_{POSS}...V...A*
 war Aux Krleža_{.DAT} given book_{.ACC}
 'The war gave Krleža a book.'
 b. ?? Rat je dao knjigu Krleži. *V...A...D_{LOC}*
 war Aux given book_{.ACC} Krleža_{.DAT}

The presence of the causative reading in DVA, but not in VAD sentences is another indication that the former has the structure of the DOC, while the latter is a TDC, given the parallel with English facts.

2.3 Nominalizations

If DVA instantiates the DOC, we expect it not to be able to nominalize. Conversely, if VAD is a TDC, the prediction is that it will be able to form nominalizations. This is exactly what we find.

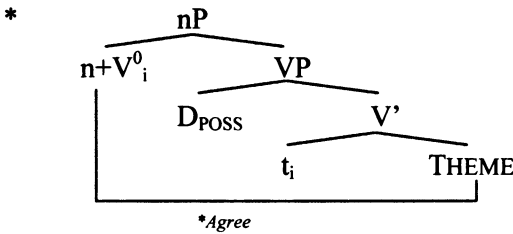
- (22) a. *poklon Hani knjige *V_[NJ]...D...A*
 gift Hana_{.DAT} book_{.GEN}
 * 'gift of Hana of the book.'
 b. poklon knjige Hani *V_[NJ]...A...D*
 gift book_{.GEN} Hana_{.DAT}
 'gift of the book to Hana.'

The contrast in (22) has been accounted for by positing a null functional head in the structure of the DOC (Appl⁰ for Marantz 1993, G for Pesetsky 1995), which precludes nominalization of the verbal structure due to the violation of Myers' generalization (Myers 1984):

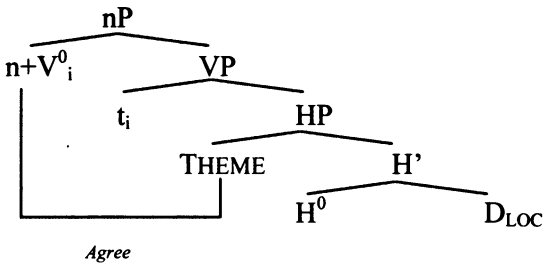
(23) Zero-derived words do not permit affixation of further derivational morphemes.

Given that in my analysis it is the TDC that contains a null functional head (H^0), and yet it freely nominalizes, an alternative explanation for the contrast in (22) is needed. I propose that nominalizations of the DOC are illicit because the genitive theme is not adjacent to the nominalized verb, i.e. D_{POSS} acts as an intervener for the genitive case assignment. In a TDC, on the other hand, nothing intervenes between the nominalized verb and genitive theme.³

(24) *Nominalization of DOC (disallowed)*



(25) *Nominalization of TDC (allowed)*



The contrast in (22) can thus be explained by the generalization in (26):

(26) *Shortest Case-Agree in Nominalization (SCAN)*

In a nominalized structure, the case licenser must agree with the closest DP.

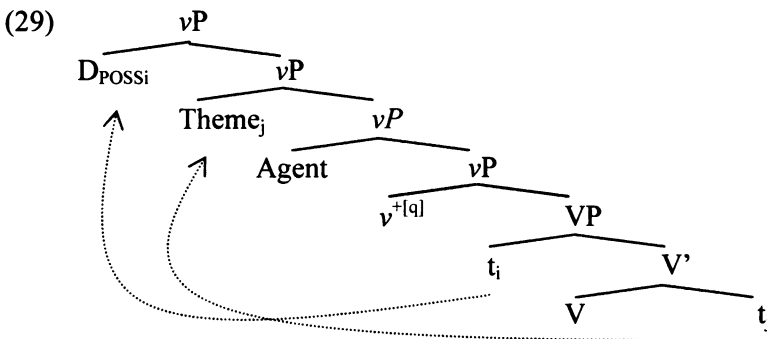
³ I assume that in nominalizations the verb raises to adjoin to a null nominalizing head n , merged with the VP.

2.4 Quantifier Scope

It has been shown (Aoun & Li 1989, Bruening 2001, a.o) that quantifier scope between the goal and the theme in a DOC is frozen, while in a TDC it is free. In Croatian, DVA shows rigid quantifier scope (27), while in VAD the scope between the goal and the theme is free (28).

- (27) Petar je jednom djetetu dao svaku čokoladicu. *D...V...A*
 Petar Aux one-DAT child-DAT given every-ACC candy-bar-ACC
 ‘Petar gave one child every candy-bar.’ $\exists > \forall, * \forall > \exists$
- (28) Dan je pokazao jedan dar svakom djetetu. *V...A...D*
 Dan Aux showed one-ACC gift-ACC every-DAT child-DAT
 ‘Dan showed one gift to every child.’ $\exists > \forall, \forall > \exists$

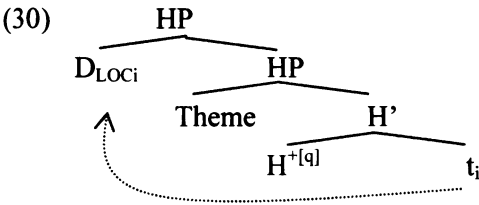
I follow Bruening (2001) in treating Quantifier Raising (QR) as a feature driven operation constrained by locality. I further assume that a quantified phrase of the semantic type $\langle\langle e, t \rangle, t \rangle$, must move (covertly) and merge with a node of type $\langle t \rangle$ in order to be interpreted (Heim & Kratzer 1998). If in a DOC, the goal and the theme are quantifiers, the first available site of type $\langle t \rangle$ where they could be interpreted is the vP node. If the phase head v^0 possesses a feature $[q]^4$ that attracts quantifiers, then this feature will first attract the closer quantified phrase, the goal, and next the one that is further away, the theme, which then has to tuck-in (Richards 1997).



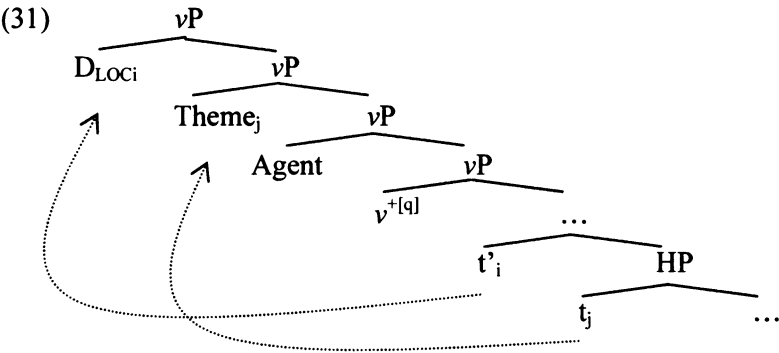
In a TDC, the vP contains two phrases of type $\langle t \rangle$: vP and HP. Both v^0

⁴ Note that $[q]$ must necessarily be optional, in order to allow structures that do not contain quantified phrases.

and H^0 can come with $[q]$ feature or without it. If H^0 *with* a $[q]$ feature is merged into the structure, D_{LOC} outscopes the theme, as in (30), (regardless of whether the quantifiers continue raising to v^0).⁵

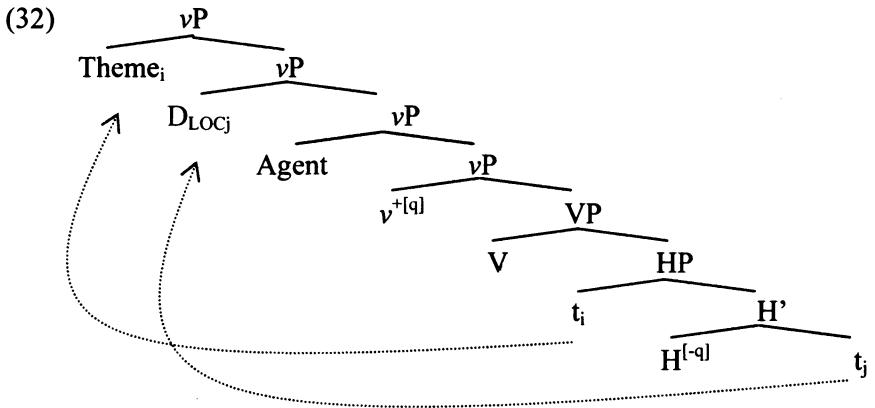


If v^0 also contains the $[q]$ feature, both quantifiers continue raising:



If H^0 *without* a $[q]$ feature is merged, both quantifiers are interpreted at the vP level, in which case the theme outscopes D_{LOC} .

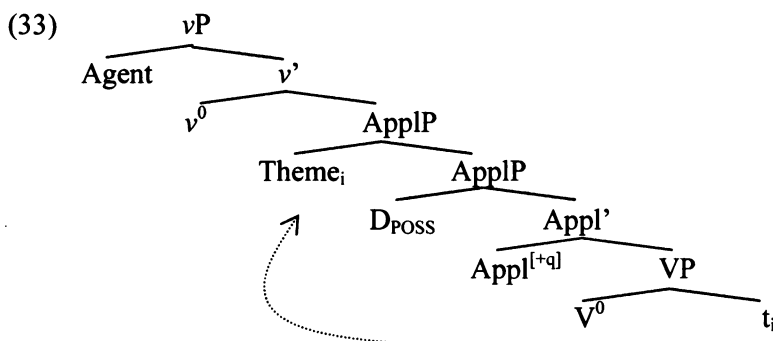
⁵ Tucking-in is impossible in (31), because here, a quantifier is not interpretable in the tucked-in position.



All the arguments discussed in this section point to the conclusion that in Croatian, DVA word order instantiates the DOC, while VAD word order instantiates the TDC. We have also seen that a coherent theory of the differences between the two constructions can be developed without the need of introducing Appl^0 , a functional head that introduces and theta-marks the goal. In the next section I present a conceptual argument against positing Appl^0 in the structure of the DOC, which rests on quantifier scope.

3 A Conceptual Argument Against Appl^0

Analyses that appeal to Appl^0 rely on neo-Davidsonian semantics in order to preserve compositionality of the proposed structures (Kratzer 1996). In such a framework, Appl^0 would have to be of the appropriate type for QR, namely $\langle s, t \rangle$, where s stands for the event argument. Assuming that this is the case, if Appl^0 is the head that introduces $D_{\text{POSS}i}$, it crucially must be unable to bear the $[q]$ feature. Otherwise, the derivation in (33) which results in the unattested inverse scope in the DOC would incorrectly be allowed.



As we saw in the previous paragraphs, H^0 provides a scope domain and v^0 does too. Appl^0 would thus be the only functional head in the vP domain which is not a possible QR site. If Appl^0 is not posited, the problem does not arise.

4 An Empirical Argument Against Appl^0

Besides the conceptual considerations just presented, there are also empirical data that argue against Appl^0 in the structure of the DOC. Consider the Croatian verb *opskrbiti* ('to supply'), whose first argument is accusative (A), and the second instrumental (INST). Under neutral intonation, it appears in two word orders: *A...V...INST* and *V...A...INST*. With this verb, the accusative is understood as the possessor of the instrumental DP. It behaves as if it were D_{POSS} . The quantifier scope between the two objects is frozen, as shown by (34).⁶

- (34) a. Dan je jednu farmu opskrbio svakim strojem. *A...V...INST*
 Dan Aux one._{ACC} farm._{ACC} supplied every._{INST} machine._{INST}
 'Dan supplied a farm with every machine.' $\exists > \forall, * \forall > \exists$

⁶ An anonymous reviewer points out that the word order in (34b) corresponds to the TDC. This is in fact not so, given my assumption that the accusative argument in (34b) corresponds to D_{POSS} , i.e. is merged in the position where D_{POSS} is merged. The word order in (34b) actually corresponds to VDA which, as I argue in section 5, can be derived from the DOC by the verb raising to v^0 . If the verb *opskrbiti* ('to supply') appeared in a TDC, the word order would be *V...INST...ACC*, which is disallowed under neutral intonation.

- b. Dan je opskrbio jednu farmu svakim strojem. *V...A...INST*
 Dan Aux supplied one._{ACC} farm._{ACC} every._{INST} machine._{INST}
 ‘Dan supplied a farm with every machine.’ $\exists > \forall, * \forall > \exists$

These data indicate that the verb *opskrbiti* only appears in a DOC, and cannot instantiate the TDC. I conclude that the sentence in (34) has the same structure as the sentence in (27), despite the quirky case marking. An applicative analysis would thus predict that structures containing this verb cannot form nominalizations (being DOCs, they would necessarily contain Appl⁰). However, this prediction is not borne out – nominalizations of this verb are quite natural, as shown by (35).

- (35) opskrba farme strojevima
 supply farm._{GEN} machines._{INST}
 ‘supply of the farm with machines’

On the other hand, the fact in (35) is correctly captured by SCAN. Since, due to the quirky case marking, it is the goal that in a nominalization bears the genitive case, SCAN correctly predicts that nominalizing the structure is possible.

5 VDA Word Order

So far, we have seen arguments that out of the three possible word orders in which ditransitive verbs appear in Croatian, VDA instantiates the DOC, and VAD instantiates the TDC. In the Introduction I briefly stated that the third possible word order, VDA, will be shown to be ambiguous between the DOC and the TDC. This is because this word order has properties of both structures. Its dative DP is understood as a possessor in a two-goal structure, as shown in (36), and if the subject of a sentence is non-agentive, the sentence has a causative reading, exemplified in (37).

- (36) Mia je poslala Vidu knjigu u Zagreb. *V...D...A...PP_{LOC}*
 Mia Aux sent Vid._{DAT} book._{ACC} in Zagreb._{ACC}
 ‘Mia sent Vid the book in Zagreb.’

- (37) Rat je dao Krleži knjigu. *V...D...A*
 war Aux given Krleža._{DAT} book._{ACC}
 ‘The war gave Krleža a book.’

At the same time, sentences with this word order do allow for inverse scope between the goal and the theme. This is shown in (38).

- (38) Doktor je dao jednoj tajnici svaki karton. $V...D...A$
 Doctor Aux given one_{DAT} secretary_{DAT} every_{ACC} file_{ACC}
 'The doctor gave to one secretary every file.' $\exists > \forall, \forall > \exists$

However, when a sentence with a non-agentive subject is used and both objects are quantified, the scope becomes rigid: $D > A$.

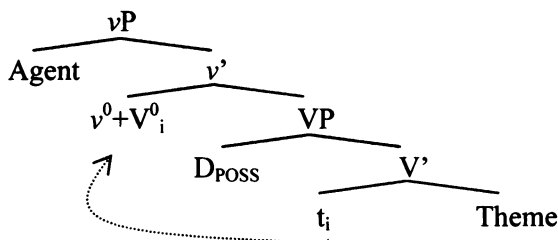
- (39) Rat je dao jednom piscu svaku knjigu. $V...D...A$
 war Aux given one_{DAT} author_{DAT} every_{ACC} book_{ACC}
 'The war gave an author every book.' $\exists > \forall, * \forall > \exists$

Similarly, the scope between the dative and accusative freezes if the PP_{LOC} is added to the structure.

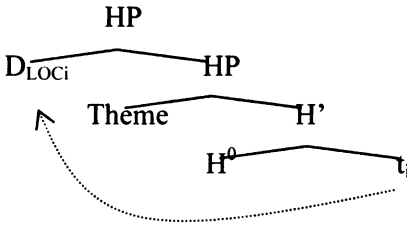
- (40) Dan je poslao jednom studentu svaku knjigu u Zagreb.
 Dan Aux sent one_{DAT} student_{DAT} every_{ACC} book_{ACC} in Zagreb
 'Dan sent one student every book to Zagreb.' $\exists > \forall, * \forall > \exists$

The mixed properties of VDA can be accounted for if this word order can be derived either from a DOC structure, by the verb moving to v^0 , as in (41), or from a TDC structure, by the D_{LOC} scrambling to adjoin the HP, as in (42).

(41) VDA – underlyingly DOC



(42) VDA – underlyingly TDC



This section completes the analysis of the DOC in Croatian. We saw that the proposed structures derive the semantic and syntactic properties of the DOC/TDC from the introduction, in all three possible word orders in which Croatian ditransitive verbs appear. I next present independent evidence for the functional head H^0 , and I discuss the applicative analysis that employs a *low* applicative head (Pylkkänen 2002).

6 Independent Evidence for H^0

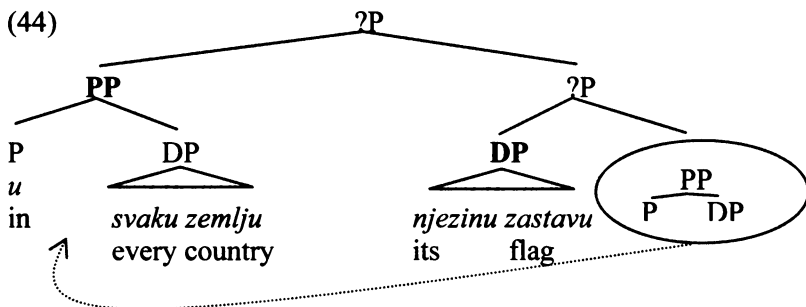
The analysis of the contrast between the DOC and the TDC presented here does not posit a functional head (Appl^0) that introduces and theta-marks the goal. However, it does posit a functional head (H^0) that introduces (and theta-marks) D_{LOC} and other location phrases. From the conceptual point of view, these approaches might seem equally (un)desirable. Here I present an argument that shows that Croatian data cannot be accounted for without positing H^0 , even if we keep Appl^0 as the introducer of the benefactive/possessor. Thus, the comparison is not between the analysis with Appl^0 vs. the analysis with H^0 , but between the analysis with both Appl^0 and H^0 and the analysis with H^0 only.

We have already seen that in Croatian, the object that linearly precedes the other also c-commands it. Consider an example in which the location phrase is a PP. Suppose that the PP contains a quantified DP, *svaku zemlju* ('every country') which binds a variable in the theme that follows it, as in (43). Suppose further that H^0 is absent from the structure.

- (43) Hana je poslala u [svaku zemlju]_i njezinu_i zastavu.
 Hana Aux sent in every_{.ACC} country_{.ACC} her_{.ACC} flag_{.ACC}
 'Hana sent to [every country]_i; its_i flag.'

In order to obtain the word order in (43), the PP must have scrambled to a position that precedes the theme. Since in Croatian overt prepositions

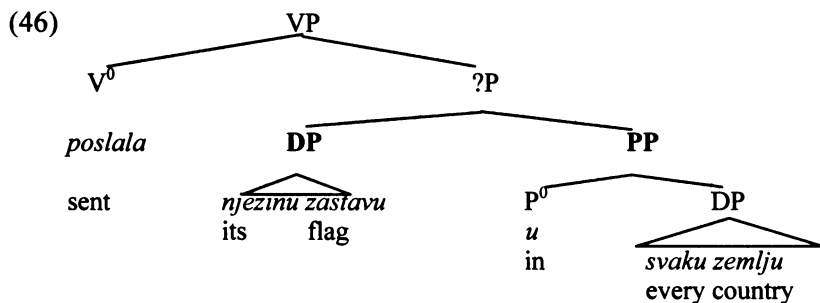
cannot be stranded, the preposition, *u* ('in') must be pied-piped together with the DP. We thus obtain a structure in (44).



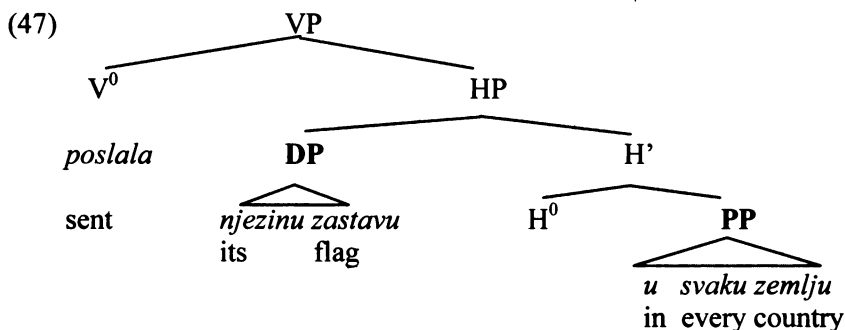
In (44), the quantifier, *svaku zemlju* ('every country') does not c-command the pronoun, *njezinu* ('her'), even though it *does* bind it. This is not surprising, since binding out of PPs in general seems to be allowed, as long as the relevant PP c-commands the variable to be bound. Thus, in (44), the nodes that are relevant for determining c-command relations between the quantifier and the pronoun are the bold-faced PP and DP. If this is correct, it makes the prediction that in the TDC word order in which the PP does not scramble, but follows the theme such as (45), backwards binding should be possible. However, this is not so.

- (45) * Hana je poslala njezinu_i zastavu u [svaku zemlju]_i.
 Hana Aux sent her_{.ACC} flag_{.ACC} in every_{.ACC} country_{.ACC}
 'Hana sent its_i flag to [every country]_i.'

We expect the relevant nodes for determining c-command between the theme and the PP_{LOC} to be those marked in the tree in (46) by bold-faced fonts, which *symmetrically c-command each other*.



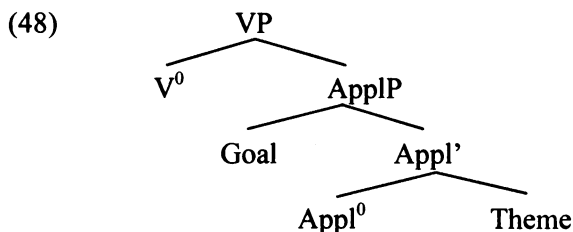
However, if the structure in (46) contains an additional functional head, between the theme and the PP_{LOC} , as in (47), the c-command relation between PP_{LOC} and DP no longer holds, and no binding is expected.



These data argue in favor of positing H^0 in the TDC *regardless* of whether $AppI^0$ is posited in the DOC or not. This constitutes independent evidence for positing H^0 in the structure of the TDC.

7 Low Applicative Head?

In this section, I briefly comment on the analysis in which the DOC structure contains a low applicative head, proposed by Pylkkänen (2002). Pylkkänen proposes that the DOC in English (and other languages that have a low applicative head) contains a functional head below the verb, which establishes a relation ‘to/from-the-possession-of’ between the goal and the theme. The structure she proposes is given in (48).



Nothing in the analysis presented here excludes the syntactic tree in (48) as a possible correct representation for the DOC in English (and Croatian DVA (and VDA) word orders). Crucially, given the semantic type of the low applicative, given in (49) below, $AppI^0$ would not be of

the appropriate type for the QR of the theme, and the unattested quantifier scope (theme>goal) would be correctly excluded.

(49) $\lambda x.\lambda y.\lambda f_{\langle e,s,t \rangle}.\lambda e.f(e,x) \ \& \ \text{theme}(e,x) \ \& \ \text{to/from-the-possession}(x,y)$.

However, we saw in the previous section that H^0 is necessary, and that the properties of the DOC/TDC can be explained without reference to an additional functional head present in the DOC. More research is necessary to establish whether we need to appeal to the low applicative head as a separate functional head in the grammar in order to derive the properties that I believe can be derived by appealing to the verb alone.

8 Conclusion

In this paper I examined ditransitive sentences in Croatian. I proposed that out of the three possible word orders between the verb (V), the goal (D) and the theme (A), DVA is an instance of the DOC, VAD is an instance of the TDC, while VDA is ambiguous between the two. I developed a theory of the differences between the DOC and the TDC without positing Appl^0 in the structure of the DOC. I showed not only that such a head is unnecessary for deriving the DOC/TDC contrasts, but that it is also conceptually undesirable (since it would have to be the only functional head in the vP domain that does not provide a scope domain). I showed that an applicative analysis also fails empirically, in predicting that ditransitive structures containing an accusative and an instrumental argument do not nominalize, contrary to fact. Finally, I proposed that the TDC obligatorily contains a functional head H^0 , and presented some independent evidence for it.

At the end of the paper I briefly discussed conceptual and empirical adequacy of the theory of the DOC that posits a low applicative head (Pylkkänen 2002). I concluded that neither conceptually nor empirically does such an analysis share the problems of the one with the high applicative head, but it is unclear at the moment whether there is data which would make it empirically necessary.

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Possessive Reflexives in Russian*

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Russian has an anaphoric element in possessives, namely *sobstvennyj*. Its distribution cannot be accounted for in terms of the standard Binding Theory. Syntactic properties of *sobstvennyj* differ from both possessive reflexive *svoj* and possessive pronominal *ego*. Besides the two latter can appear alone or with *sobstvennyj* (forming complex expressions *svoj sobstvennyj*, *ego sobstvennyj*), but the form *sobstvennyj* itself can only be simplex. This gap in the paradigm of possessives is filled in if we posit a null pronoun that (just like *svoj* and *ego*) can appear with or without *sobstvennyj*. This hypothesis seems not to come into conflict with the empirical data.

The paper is organized as follows: section 1 explores properties of simplex possessives *svoj* and *ego*. Section 2 concentrates on syntactic distribution of *sobstvennyj*. In 2.1 we advance the hypothesis that surface *sobstvennyj* is a complex expression formed by a null anaphoric pronoun and *sobstvennyj*. Section 3 deals with the structure of prenominal possessives in Russian. We state that agreeing possessives are generated in Spec, NP and surface in this position in Old Russian, whereas in modern Russian they move to the Spec, nP. *Sobstvennyj* under this hypothesis could be nP or NP adjunct. Section 4 concentrates on the distribution of complex possessives. We argue that their properties are

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dependent on those of simplex pronouns and *sobstvennyj* element. Section 5 sums up the functions of *sobstvennyj* and shows that \emptyset + *sobstvennyj* construction displays the same effects as other possessive complexes do.

1 Syntactic Distribution of Possessive Pronouns

1.1 *Svoj*

Possessive *svoj* exhibits properties, perfectly consistent with Principle A of the Binding Theory. As was noted as early as 1986 by Gilbert Rappaport: "The locality domain of the Russian reflexive is the minimal finite clause containing it". The same is true for possessive reflexives.

In the object position of the finite verb, *svoj* cannot take an antecedent outside the embedded clause (see (1a)¹), but in the infinitival clause (example (1b)) *svoj* may be coindexed with both subjects: of the matrix and of the embedded clause.

- (1) a. Vanja znaet, <čto Volodja ljubit [svoju sestru]>.
 Vanja_{NOM} knows that Volodja_{NOM} loves self's sister_{ACC}
 'Vanja_i knows <that Volodja_j loves *his_i/his own_j sister>.'
- b. Professor poprosil assistenta <PRO čitat' svoj doklad>.
 professor_{NOM} requested assistant_{ACC} to-read self's report_{ACC}
 'The professor_i asked his assistant_j <PRO_j to read his own_{i,j} report>.'

The set of potential binders of *svoj* is not restricted (as is usually supposed) to nominative subjects. In absence of the latter, *svoj* can also be anteceded by the psych-predicate experiencer object.²

In (2) one of the psych-predicate arguments (namely the Theme: *Petja* in (2a) and *svoja sobaka* in (2b)) can be assigned the nominative case. It makes it, then, impossible for the experiencer object to bind the reflexive possessive in a subject position (2b):

¹ Examples (1a,b) are borrowed from Rappaport (1986). Author's notation is preserved.

² This property of *svoj* is not a unique characteristic of Russian. The same phenomenon is attested in some other languages (see Pesetsky 1987, Belletti & Rizzi 1988, Pollard & Xue 1998, Xue 2002, among others).

- (2) a. Petja_i razdražae_t svoju_i sobaku.
 Peter_{NOM} irritates self's_{ACC} dog_{ACC}
 'Peter's_i dog is irritated with him_i'
- b. *Petju_i razdražae_t svoja_i sobaka.
 Peter_{ACC} irritates self's_{NOM} dog_{NOM}
 'Peter is irritated with his own dog.'

Examples in (3) illustrate psych-predicates that can not project external argument. This results in the possibility of experiencer object (dative in (3a) and accusative in (3c)) to bind reflexive possessor in the lower position.

- (3) a. Pete_i žal' svoju_i sobaku.
 Peter_{DAT} to feel sorry self's_{ACC} dog_{ACC}
 'Peter feels sorry for his dog.'
- b. *Petju_i žal' svoe_ji sobake.
 Peter_{ACC} to feel sorry self's_{DAT} dog_{DAT}
 'Peter's_i dog feels sorry for him_i.'
- c. Petju_i tošnit ot svoe_ji raboty.
 Peter_{ACC} feels sick Prep self's_{GEN} job_{GEN}
 'Peter's_i job makes him_i sick.'
- d. *Ot Peti_i tošnit svoju_i sestru.
 Prep Peter_{GEN} feels sick self's_{ACC} sister_{ACC}
 'Peter_i makes his_i sister sick.'

1.2 Ego

The referential properties of possessive *ego* are similar to those of pronominals in terms of Principle B of the BT. Still, it exhibits a number of peculiarities, not accountable for by the standard BT.

Consider examples (4) – (5)³. In (4) *ego* may not have antecedent within the embedded finite clause and must be coindexed with the subject of the matrix predicate (or some other, non-sentence-internal noun phrase).

- (4) Vanja_i znae_t, <čto Volodja_j ljubit [ego_{i,k,*j} sestru]>.
 Vanja_{NOM} knows that Volodja_{NOM} loves his sister_{ACC}
 'Vanja_i knows <that Volodja_j loves his_{i,k} /*his own_j sister>.'

³ (4) and (5) are modified instances of (1a,b).

In (5) *ego* is embedded in the infinitival clause, but still it can be coindexed only with the subject of a matrix clause.

- (5) Professor_i poprosil assistenta_j <PRO_j čitat' ego_{i,k,*j} доклад>.
 professor_{NOM} requested assistant_{ACC} to-read his report_{ACC}
 'The professor_i asked his assistant_j <PRO_j to read his_{i,k}/*his own_j report>.'

Now consider cases in which *ego* is contained in a noun phrase:

- (6) a. Petja_i pročitao otzvyvy na ego_{j,*i} rabotu.
 Peter read reviews on his work
 'Peter_i read reviews on his_{j,*i} work.'
 b. Petja_i pročitao [moj [otzvyv na ego_{i,j} rabotu]].
 Peter read my review on his work
 'Peter_i read my review on his_{i,j} work.'

In (6a) *ego* can not be anteceded by the subject of the clause. In (6b) the presence of an overt specifier *moj* makes it possible for *ego* to be coindexed with *Petja*.

The locality domain of *ego*, thus, can be informally stated as a minimal category, containing the pronoun and a subject.

Principle B states that pronominal must be free in its GC. Let us see if it is the case with *ego*. As is shown in (4), (5) *ego* can not be coindexed with the subject of its own clause. In ditransitive clauses it can be anteceded by the indirect object as in (7a)⁴, but not by direct object (7b):

- (7) a. Devočki pokazali Maše_i eě_{i,j} komnatu.
 girls_{NOM} showed Masha_{DAT} her room_{ACC}
 'Girls showed to Masha her own room.'
 b. Vračī pokazali Mašu_i eě_{j,*i} roditeljam tol'ko na sledujuščij den'.
 doctors_{NOM} showed Masha_{ACC} her parents_{DAT} only on
 next day
 'Doctors showed Masha_i to her_{j,*i} parents only the next day.'

⁴ (7a) is a modified version of example (9) from Avrutin (1994, p.714)

Data like those in (7) allow us to suppose, that in ditransitive clauses the accusative noun phrase c-commands the dative one.

Problems arise in context of psych-predicates. It is not clear, why (8) under the current coindexation, though is not fully ungrammatical, but is treated by speakers as somehow odd. It is not predicted by BT, since, as it was shown in (3a,b), the psych-predicate experiencer object c-commands its theme object.

- (8) ? Petju_i žal' ego_i mame.
 Peter_{ACC} to feel sorry his mother_{DAT}
 'Peter's_i mother feels sorry for him_i.'

The similar problem is faced in cases like (9), where *ego* may be anteceded by the experiencer object of the psych-predicate *tošnit'*:

- (9) ? Petju_i davno uže tošnit ot ego_i raboty.
 Peter_{ACC} long since feels sick Prep his job
 'It is long since Peter's_i job makes him_i sick.'

Though examples like (9) are not as frequently met in texts as the similar examples with reflexive possessor (see above (3c)), (9) is not ungrammatical. This also is not predicted by the Principle B.

Another evidence of Principle B violation comes from cases like (10). BT can not account for the fact that *ego* can not be anteceded by obliques in (10):

- (10) a. * Ego_i sobaka byla ubita Petej_i toj že nočju.
 his dog_{NOM} was killed by.Peter that same night
 a'. ?* Toj že nočju Petej_i byla ubita ego_i sobaka.
 that same night by.Peter was killed his dog_{NOM}
 'His_{j,*i} dog was killed by Peter_i the same night.'
 b. * Ot Peti_i tošnit ego_i druzej.
 Prep Peter_{GEN} feels sick his friends_{ACC}
 'Peter_i makes his_{j,*i} friends feel sick.'

2 Syntactic Distribution of *sobstvennyj*

As far we dealt only with simplex instances of possessives. But *svoj* and *ego* can be used in complex forms as well.

Table 1 Four types of possessive pronouns in Russian

Simplex	<i>svoj</i> 'self's'	<i>ego</i> 'his'
Complex	<i>svoj sobstvennyj</i> 'self's own'	<i>ego sobstvennyj</i> 'his own'

As can be seen in Table 1, *svoj sobstvennyj* and *ego sobstvennyj* are formed by combination of simplex possessives *svoj* / *ego* and *sobstvennyj* 'own'.

Sobstvennyj, in addition to its function of forming complex expressions, listed in Table 1, can occur independently:

- (11) Petja_i udaril sobstvennuju_i sobaku.
 Peter hit own dog
 'Peter hit his own dog.'

In what follows we will discuss syntactic properties of such independent occurrences of *sobstvennyj* and propose the analysis that can account for its distribution.

2.1 Locality

Syntactic behavior of *sobstvennyj* shows a number of peculiarities. Its distribution differs significantly from that of possessive reflexive *svoj*. Consider the case in which *sobstvennyj* is contained in a complement noun phrase of a finite verb:

- (12) Olga_i znaet, što Petja_j udaril sobstvennuju_{j,*i} sobaku.
 Olga knows Comp Peter hit own dog
 'Olga knows that Peter hit his/*her dog.'

As indicated in (12), *sobstvennyj* can be coindexed with the subject of its own clause, but not with the subject of the matrix one. The similar restriction holds, when *sobstvennyj* is embedded in an infinitival clause:

- (13) Professor_i poprosil assistenta_j [PRO_j čitat' sobstvennyj_{j,*i}
 professor_{NOM} requested assistant_{ACC} to-read own
 doklad].
 report_{ACC}
 'The professor_i asked his assistant_j to read his_{j,*i} report.'

Comparing (13) to the similar example (1b) with *svoj* we can see that the local domain of *sobstvennyj* is narrower than that of *svoj*: *sobstvennyj* must find its antecedent within the minimal IP domain.

Though PRO blocks binding of *sobstvennyj* by the external subject, noun phrase specifier (overt as well as non-overt) is transparent for *sobstvennyj*:

- (14) a. Petja_i pročital otzvyvy na sobstvennuju_i rabotu.
 Peter read reviews on own work
 ‘Peter read reviews on his own work.’
 b. Petja_i pročital [moj_j [otzýv na sobstvennuju_{i,j} rabotu]].
 Peter read my review on own work
 ‘Peter read my review on his own/my work.’

2.2 C-Command

Sobstvennyj may be anteceded by the nominative subject as in (11) and (15).

- (15) Petja_i uvidel tarakana na sobstvennom_i stole.
 Peter saw cockroach on own desk
 ‘Peter saw a cockroach on his own desk.’

But the subject is not the only appropriate antecedent for *sobstvennyj*.

(16) illustrates that *sobstvennyj* may take an object noun phrase as its antecedent (not an option for *svoj*).

- (16) Vrač_i pokazali Mašu_i sobstvennym_{i,j}/svoim_{j,*i} roditeljam
 doctors_{NOM} showed Masha_{ACC} own/self's parents_{DAT}
 tol'ko na sledujuščij den'.
 only on next day.
 ‘Doctors showed Masha to her own parents only the next day.’

Psych-predicate contexts discussed in 1.1 with respect to *svoj* represent another case of striking asymmetry between *svoj* and *sobstvennyj*. Experiencer object *Petju* in (17) can be coindexed with *sobstvennyj* but not with *svoj*:

- (17) Petju_i razdražae_t sobstvennaja_i /*svoja_i rabota.
 Peter_{ACC} irritate own /self's job_{NOM}.
 'Peter is irritated with his own job.'

Moreover, *sobstvennyj* can appear in contexts not allowed for other simplex possessives. In passives *sobstvennyj* can be anteceded by the passive agent:

- (18) Sobstvennaja_i /*svoja_i /*ego_i sobaka byla ubita im_i;
 own /self's /his dog_{NOM} was killed by.him
 toj že nohju.
 that same night
 'His own dog was killed by him the same night.'

Finally the crucial difference between *sobstvennyj* and *svoj* is that the former (but not the latter) can have an indisputably non-c-commanding antecedent:

- (19) Zvuk sobstvennogo_i /*svoego_i golosa razbudil ego_i;
 sound own /self's voice woke he_{ACC}
 okonchatel'no.
 completely
 'The sound of his own voice woke him up completely.'

2.3 Analysis of *sobstvennyj*

Syntactic behavior of *sobstvennyj* as illustrated in 2.1 and 2.2 shows a number of peculiarities. How can it be accounted for? There are at least two possible analyses.

2.3.1 *Sobstvennyj as a Possessive Pronoun.* Analysis of *sobstvennyj* as a possessive pronoun faces with at least two serious problems.

- Its syntactic properties are not consistent with Binding Theory principles as stated in Chomsky (1981), (1986). *Sobstvennyj* is not an anaphor, since it is possible for it not to be bound in its Governing Category (see (19)). It is also not a pronominal in terms of Principle B, as long as it can have a c-commanding antecedent within its GC (see (11)).

- Russian data provide evidence that the structural position of *sobstvennyj* in a noun phrase differs from that of other possessive pronouns (a detailed analysis of this issue is offered in section 3).

Besides, such an account leaves unexplained a strange asymmetry in Russian pronominal system (see Table 2.). Why there are three simplex, but only two complex possessive pronouns?

Table 2

Simplex	<i>svoj</i> 'self's'	<i>ego</i> 'his'	<i>sobstvennyj</i> 'own'
complex	<i>svoj sobstvennyj</i> 'self's own'	<i>ego sobstvennyj</i> 'his own'	???

2.3.2 \emptyset + *sobstvennyj* *Analysis*. We assume that every noun phrase structure has a potential position for a possessor. This position may be occupied either by an overt noun phrase, (such as *Petinu*, *svoj* and *ego* in (20a)) or by a null anaphoric pronoun (nominal PRO in terms of Abney (1987)), (20b).

- (20) a. $Vasja_i$ ljubit *Petinu* / $svoju_i$ / $ego_{k,*i}$ *mamu*.
'Vasja_i loves Peter's / his own / his_{k,*i} mother.'
- b. $Vasja_i$ ljubit $\emptyset_{i,k}$ *mamu*.
'Vasja_i loves his_{i,k} mother.'

We suppose that referential properties of noun phrase *mamu* in (20b) are in fact determined by the referential properties of the null pronoun.

Now, we suggest that there is no such a pronoun as *sobstvennyj*, and that the so-called independent occurrences of *sobstvennyj* are not in fact independent. We suppose that in cases like (11), *sobstvennyj* constitute with a null anaphoric pronoun a kind of complex anaphoric expression (see (11')), just as it does with *svoj* and *ego* in complex pronouns.

- (11') $Petja_i$ udaril $\{\emptyset$ *sobstvennuju* $\}_i$ *sobaku*.
'Peter hit his own dog.'

Additional evidence of plausibility of such an account is brought out by the fact that *sobstvennyj* can be used not only with pronouns but also with lexical noun phrases:

- (21) *Petin sobstvennyj dom*
'Peter's own house'

If *sobstvennyj* in all other cases should be accompanied by some possessive noun phrase, why then should it be otherwise in cases like (11) – (19)?

In addition, this analysis allows us to avoid the asymmetry illustrated in Table 2. The revised, pretty symmetric Russian pronominal system is presented in Table 3:⁵

Table 3

simplex	<i>svoj</i> 'self's'	<i>ego</i> 'his'	∅
complex	<i>svoj sobstvennyj</i> 'self's own'	<i>ego sobstvennyj</i> 'his own'	∅ <i>sobstvennyj</i> 'own'

3 Structure of Russian Noun Phrases with Prenominal Possessors

3.1 Morphology

Some agreeing possessives pattern with adjectives according to their declination type (*moj, tvoj, svoj*); others differ from adjectives only in nominative (*Petin, papin, ...*) and *ego* (Pl. – *ih*) exhibits no case / gender agreement (and is phonologically identical to the genitive inflections of adjectives). *Sobstvennyj* morphologically is an adjective, i.e. it follows the same case / number / gender paradigm as adjectives do.

3.2 Position of Prenominal Possessives in the Noun Phrase

3.2.1 Syntactic Structure of Possessive Noun Phrases in Russian.

Consider the distribution of adjectival (*Petin, papin, ...*) and pronominal (*moj, tvoj, ...*) possessors on the one hand and *svoj, ego* and *sobstvennyj*

⁵ More evidence of existence of a null anaphoric pronoun in Russian comes from constructions with external possessor.

- (i) a. *Petina sobaka umerla.*
Peter's dog died
b. *U Peti umerla sobaka.*
Prep Peter_{GEN} died dog
'Peter's dog died.'

The possibility of NP *dog* in (i.b) to refer to *Peter* as its owner, may be explained if we suppose that its possessor position is filled with null anaphoric pronoun (*U Peti, umerla ∅, sobaka.*).

on the other. The only item that can co-occur with any other possessive expression is *sobstvennyj* (but not *svoj* or *ego*):

- (22) a. Petin (*svoj / *ego / *sobstvennyj*) dom
 'Peter's own house'
 b. papin (*svoj / *ego / *sobstvennyj*) dom
 'father's own house'
 c. moj (*svoj / *ego / *sobstvennyj*) dom
 'my own house'

So, all the possessive adjectives (with *-in*, *-ov* inflections) and pronouns occupy the same position that differs from that of *sobstvennyj*.

As for the position of possessors, in Old Russian both agreeing and genitive possessors were much freer in their pre- or postnominal order than in modern language. The possessors may be preposed to the head:

- (23) a. k *sobstvennoj* ix cerkvi
 'towards their own church'
 b. *sobstvennyj* obvinjaemyx episkop
 lit. 'the own father (bishop) of the accused'

But much more frequently agreeing possessives (*svoi* 'self's', *mъi* 'my') were postposed to the head noun (*kon* 'horse'):

- (24) a. I pomjanu Oleg kon' *svoi*.
 'And Oleg remembered his horse.'
 b. Kde est' kon' *mъi*?
 'Where is my horse?'

Now let us turn to the position of *sobstvennyj*. Whereas in Old Russian it was usually placed before the possessor (see above), the modern language allows for two orderings in case of prenominal possessives (25a,b) and the order *sobstvennyj*-N-possessor with postnominal genitives (25c):

- (25) a. k ix *sobstvennoj* cerkvi
 b. k *sobstvennoj* ix cerkvi
 'towards their own church'

- c. k sobstvennoj cerkvi prixožan
'towards the own church of parish'

In sum: agreeing possessives have the declination paradigm similar (but not identical) to the adjectival one, whereas *sobstvennyj* declines as adjective; agreeing possessives and *sobstvennyj* occupy different syntactic positions; possessive pronouns were often postposed to the head noun in Old Russian and can only precede it in modern language; *sobstvennyj* was proposed to possessives in Old Russian and may precede or follow pronominal possessors in modern Russian.

Let us now enumerate the previous analyses of syntactic position of (agreeing) possessives in Slavic. According to Veselovska (1998), Czech possessors are generated in Spec, NP and move to Spec, DP, a similar approach is adopted by Tasseva-Kurkchieva (2004) for Bulgarian possessive noun phrases. Isakadze (1998) places Russian and Czech agreeing possessors in Spec, PossP position, where they remain without further movement. Rappaport (2004) suppose that Slavic possessive adjectives and pronouns are merged in Spec, PossP and move to Spec DP for feature checking. Trugman (2005) treats Russian pronominal possessives either as heads or phrases, merged in Spec, NP and (not obligatory) moved to Spec, DP. Finally, Zlatič (2002), based on Serbo-Croatian and other Slavic data, argues that agreeing possessives morphologically pattern with adjectives but exhibit semantic properties of nouns (occupy argument position, i.e. Spec of NP, and establish anaphoric relations).

To capture the structure and syntactic properties of Russian (pronominal) possessives, we postulate some small n head, analogous to PossP in previous works. Pronominal possessors are merged in Spec, NP. The n head has some features that need to be checked. The mechanism of feature checking changed from Old to modern Russian. In Old Russian it was realized via N-to-n head movement, overt, as in *kon' svoi*; or at LF, as in *ih cerkvi*. In modern Russian n features are checked via Spec-head agreement and the possessor is attracted from Spec, NP to Spec, nP.

At the same time, *sobstvennyj* is an nP or NP adjunct, i.e. it always adjoins to the constituent which contains the possessor. Adjectival morphology on possessives and *sobstvennyj* is due to the rules of concord, applied to all pronominal elements in Russian (adjectives, determiners,

etc.). *Sobstvennyj* is more consistent in taking adjectival inflections since it is an adjunct, just as the meaningful adjectives are.

Thus the structures for the noun phrase with prenominal possessives and *sobstvennyj* in Old (26a) and modern (26b) Russian are:

- (26) a. *sobstvennyj* [_{nP} [_n dom_k [_{Spec, NP} ih [_N t_k]]]]
- b. /*sobstvennyj*/ [_{Spec, nP} ih_i [_n n /*sobstvennyj*/ [_{Spec, NP} t_i [_N dom]]]]
- ‘their own house’

The ability to be adjoined quite “high” (to nP) is not the unique property of *sobstvennyj*, there are other Russian adjectives, which also display such behavior. For instance, *poslednij*, as opposed to *novyj*, can precede prenominal possessives or follow them:

- (27) a. *ego poslednjaja rabota* vs *poslednjaja ego rabota*
 ‘his last job’
- b. *moja novaja mašina* vs #*novaja moja mašina*
 ‘my new car’

3.2.2 *Properties of Sobstvennyj in Picture Nouns Context.* Picture nouns allow for two prenominal possessive expressions:

- (28) *Moj sobstvennyj Petin portret gorazdo lučše tvoego.*
 my own Peter’s portrait much better than.yours
 ‘My own portrait of Peter is much better than yours.’
 (lit. ‘My own Peter’s portrait...’)

The example above is perfectly consistent with our analysis: the higher possessive is in Spec, nP whereas the lower one is in Spec, NP. Picture noun contexts bring out additional evidence of the plausibility of $\emptyset + \textit{sobstvennyj}$ analysis:

- (29) a. *On_i porval Petin_k sobstvennyj_{k,*i} portret.*
 [_{Spec, nP} Petin_k n [_{NP} *sobstvennyj*_k [_{Spec, NP} t_k [_{NP} portret]]]]
- ‘He tore up Peter’s own portrait.’

√*Peter* = Poss / Ag
 **he* = Poss / Ag

- b. On_i porval *sobstvennyj*_{i,*k} Petin_k portret.
sobstvennyj [_{Spec, nP} ∅_i n [_{Spec, NP} Petin_k [_{NP} portret]]]
 'He tore up his own portrait of Peter.'
 $\sqrt{he} = \text{Poss} / \text{Ag}$
 $*Peter = \text{Poss} / \text{Ag}$

Thus, the rule for *sobstvennyj* may be stated as follows: *sobstvennyj* may be associated with a possessor, if on some stage of derivation it adjoins to the projection containing this possessor.

4 Syntactic Distribution of Complex Possessive Pronouns

Above we proposed to analyze *sobstvennyj* as $\emptyset + \textit{sobstvennyj}$. Now the question immediately arises: How can this structure help to account for its distribution?

We suggest that syntactic distribution of \emptyset *sobstvennyj* and other complex possessive pronouns is determined by two independent factors. These are:

- i. distribution of the simplex pronoun
- ii. properties of *sobstvennyj*

We will test this hypothesis on *svoj sobstvennyj* and *ego sobstvennyj* complexes.

4.1 *Svoj sobstvennyj*

Svoj sobstvennyj in local contexts exhibits the same distribution as *svoj*, as illustrated by (30a-c):

- (30) a. Petja_i udaril svoju_i / svoju *sobstvennuju*_i sobaku.
 'Peter_i hit his_i dog.'
 b. Pete_i žal' svoju_i / svoju *sobstvennuju*_i sobaku.
 Peter_{DAT} to feel sorry self's_{ACC}/self's own_{ACC} dog_{ACC}
 'Peter feels sorry for his own dog.'
 c. Petju_i tošnit ot svoej_i / svoej *sobstvennoj*_i raboty.
 Peter_{ACC} feels sick Prep self's_{GEN}/self's own_{GEN} job_{GEN}
 'Peter's_i job makes him_i sick.'

The important point here is that occurrences of *svoj sobstvennyj* in sentences like (30a-c) obligatorily entail the contrastive reading. Stated

more precisely: in contrastive contexts *svoj sobstvennyj* may be used in positions accessible otherwise only to *svoj*.

Now consider non-local instances of *svoj sobstvennyj*:

- (31) a. Vanja_i znaet, <čto Volodja_j ljubit [svoju_{j,*i} /
Vanja_{NOM} knows that Volodja_{NOM} loves self's_{ACC} /
/ svoju sobstvennuju_{j,*i} sestru]>.
/ self's own_{ACC} sister_{ACC}
'Vanja_i knows <that Volodja_j loves his own_{j,*i} sister>.'
- b. Professor_i poprosil assistenta_j <PRO_j čitat' svoji_j /
professor_{NOM} requested assistant_{ACC} to read self's_{ACC} /
/ svoi sobstvennyj_{j,*i} doklad>.
/ self's own_{ACC} report_{ACC}
'The professor_i asked his assistant_j <PRO_j to read his_j /his
own_{j,*i} report>.'

Contrary to *svoj*, *svoj sobstvennyj* does not allow for long-distant antecedents as illustrated in (31b).

Now we can summarize the properties of *svoj sobstvennyj* as opposed to *svoj*. Occurrences of *svoj sobstvennyj* show two kinds of effects:

- i. contrastive reading
- ii. locality effects

4.2 *Ego sobstvennyj*

Ego sobstvennyj can be used in the same positions as *ego* only in case of contrastive contexts. In (32b) *ego sobstvennyj* must be contrastively focused, otherwise the sentence would be awkward. No such restriction obtains in (32a).

- (32) a. Petja_i poprosil sosedej PRO postorožit' ego_{i,k} dom.
Peter asked neighbours to watch over his house
'Peter asked his neighbours to watch over his house. (neutral)'
- b. Petja_i poprosil sosedej PRO postorožit'
Peter asked neighbours to watch over
*ego sobstvennyj*_{i,*k} dom.
his own house
'It was his own house that Peter asked his neighbours to watch
over.(contrastive)'

The crucial difference between the referential properties of *ego sobstvennyj* and those of *ego* is that the former may not be r-free:

- (33) a. Prinesi mne ego knigu, a ne eë.
 give me his book not hers
 'Give me his book, not hers.'
- b. *Prinesi mne ego sobstvennuju knigu, a ne eë.
 give me his own book not hers
 intended meaning: 'Give me his book, not hers.'

Crucially, *ego sobstvennyj* differs from *ego* in that it may not have a sentence external antecedent. It results in the fact that reference of *ego sobstvennyj* in contrast to *ego* is never ambiguous. *Ego* in (34) (as well as all other examples with *ego*) may refer either to sentence internal (*Petin* in (34)) antecedent or to some other previously mentioned noun phrase. For *ego sobstvennyj* in (34) (and others) only the first option is available.

- (34) a. Petina_i soseďka udarila ego_{i,k} sobaku.
 Peter's neighbour hit his dog
 'Peter's_i neighbour hit his_{i,k} dog.'
- b. Petina_i soseďka udarila ego sobstvennuju_{i,*k} sobaku.
 Peter's neighbour hit his own dog
 'Peter's_i neighbour hit his_{i,*k} dog.'

To sum up, occurrences of *ego sobstvennyj*, as opposed to *ego* entail two types of effects:

- i. contrastive context
- ii. sentence-internal antecedent

5 Functions of *sobstvennyj*

5.1 Semantic and Syntactic Functions of *sobstvennyj*

In section 4 we advanced the hypothesis that the syntactic distribution of complex possessive pronouns is determined by two factors, namely the distribution of the simplex pronoun and the properties of *sobstvennyj*.

In sections 4.1, 4.2 we saw that the set of possible antecedents of complex pronouns represents the subset of possible antecedents of its

simplex counterparts. It means that, as it was supposed, the distribution of possessive complexes is dependent on that of simplex pronouns.

As for the second part of our hypothesis, we suggest that effects of locality and contrastive reading, outlined in the previous sections must be attributed to the *sobstvennyj* component.⁶

Evidence that these effects are due to particular functions of *sobstvennyj* comes from constructions with *sobstvennyj* linked to a lexical possessive. Both (35) and (36) necessarily imply that *Katja* and *Sasha* have been previously mentioned in the text. Both *Katiny sobstvennye* and *Sašiny sobstvennye* are contrastively focused.

(35) Vera vyterla devočku pušistym polotencem i nadela svoju futbolku - polučilos', budto trikotažnoe platjice. Noskov podhodjaščego razmera ne bylo, prišlos' obojtis' bez nix. *Katiny sobstvennye* i stirat' ne imelo smysla...

'Vera dried the girl with a bath towel and dressed her in her own T-shirt – it looked like a dress. Socks of a proper size could not be found. Kate's own (socks) were so dirty, that there was no point in washing them.'

(36) Inogda voprosy, kotorye zadaval Petr, kazalis' črezvyčajno jasnymi i četkimi, a *Sašiny sobstvennye* otvety byli do glubiny durackimi.

'Sometimes, questions that Peter would ask seemed extremely plain and clear, while Sasha's own answers were deeply idiotic.'

As is illustrated by (35) – (36), *sobstvennyj* imposes on nominal possessors the same restrictions as on pronouns. Stated more explicitly, *sobstvennyj* has two functions:

1. "Semantic" function: *sobstvennyj* imposes contrastive semantics on possessives, with which it is associated;
2. "Syntactic" function: *sobstvennyj* reduces the set of potential antecedents of the possessive to the most local one.

⁶ The analysis advanced here is similar, though not identical to the analysis of English *himself* proposed by Zribi-Hertz (1995). In particular, Zribi-Hertz denies the locality effect of own-adjunction.

5.2 Referential Properties of \emptyset *sobstvennyj*

It seems possible now to extend the proposed analysis of complexes *ego/svoj sobstvennyj* to the construction \emptyset *sobstvennyj*. We suppose that the referential properties of this complex construction are formed by referential properties of null anaphoric pronoun and outlined functions of *sobstvennyj*. Though the distribution of \emptyset is far beyond the scope of this paper, we may however note that examples (11) – (19) above allow for the same interpretation without *sobstvennyj* (see for instance (37)):

- (37) a. Petja_i udaril *sobstvennuju*_i sobaku.
 ‘Peter_i hit his_i dog.’
 b. Petja_i udaril $\emptyset_{i,k}$ sobaku.
 ‘Peter hit the dog.’

This and the following (38) examples demonstrate that *sobstvennyj* imposes the same restrictions on referential properties of \emptyset as on that of other simplex possessives, namely (38a) is contrastively focused and the set of potential binders of \emptyset in (38b) is restricted to the most local one in (38a):

- (38) a. Olga_j znaet, čto Petja_i udaril *sobstvennuju*_{i,*j} sobaku.
 Olga knows Comp Peter hit own dog
 ‘Olga knows that it was his own dog that Peter hit.’
 b. Olga_j znaet, čto Petja_i udaril $\emptyset_{i,j,k}$ sobaku.
 Olga knows Comp Peter hit dog
 ‘Olga knows that Peter_i hit his_{i,k}/her dog.’

The syntax of null anaphoric pronoun certainly should be investigated more thoroughly. We leave this for further research.

In this paper we discussed properties of Russian possessive anaphoric expressions. In particular, we focused on *sobstvennyj* that was not previously discussed in the literature. We proposed to analyze *sobstvennyj* as a complex expression \emptyset + *sobstvennyj*, which proved to display the same effects of locality and contrastive reading as complex possessives do.

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Parasitic Gaps in Russian*

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Parasitic gap (PG) is most often defined as a gap that is dependent on the existence of another gap (real gap) in the same sentence. Cf. the contrast between (1a) and (1b) (*t* for real gap, *pg* for parasitic gap):

- (1) a. Which articles_i did John file *t_i* without reading *pg_i*?
b. * John filed these articles without reading.

It has been assumed that PGs are licensed only by overt A'-movement. For example, in English PGs can't be anteceded by passive subjects (2a) or by *wh*-in-situ (2b):

- (2) a. * John was killed by a tree falling on. (Engdahl 1983)
b. * John filed which articles without reading.

In this paper I shall examine PGs and related phenomena in Russian and present evidence in favor of the hypothesis that PGs can be licensed by covert movement.

1 PGs vs. Null Pronouns in Russian

In Russian PGs can be licensed by *wh*-movement in independent or relative clauses and by topicalization:

- (3) a. *Wh*-movement:
[Kakuju knigu]_i ty vybrosil *t_i*, ne pročítav *pg_i*?
which_{ACC} book_{ACC} you threw.away NEG read_{CONV}
'Which book did you throw away without reading?'

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b. Relativization:

[Eto kniga]_i, kotoruju_i Vasja vybrosil *t_i*,
 this.is book which Vasja threw.away
 ne pročítav *pg_i*.
 NEG read_{CONV}

‘This is a book which Vasja threw away without reading.’

c. Topicalization:

[Etu knigu]_i Vasja vybrosil *t_i*, ne pročítav *pg_i*.
 this_{ACC} book_{ACC} Vasja threw.away NEG read_{CONV}

‘This book, Vasja threw away without reading.’

What makes Russian different from languages of English type is that in Russian null objects in adjunct clauses can occur in sentences without real gaps (*g* for gap):

(4) a. Vasja vybrosil [etu knigu]_i, ne pročítav *g_i*.

Vasja threw.away this_{ACC} book_{ACC} NEG read_{CONV}

‘Vasja threw this book away without reading it.’

b. Parlament odobrit [ljuboe pravitel'stennoje
parliament approve any_{ACC} government_{POSS.ACC}
predloženiye]_i, ne čítaja *g_i*.
proposal_{ACC} NEG read_{CONV}

‘The parliament will approve of any government proposal without reading it.’

c. Včera u Vasi rodilsja syn. On nazval jeho
yesterday at Vasja_{GEN} was.born son he named him
Petej, zaregistrovav *g_i* pod svoej familiej.
Petja_{INST} register_{CONV} under his surname_{INST}

‘Yesterday Vasja’s son was born. He named him Petja registering him under his surname.’

One may hypothesize that in (4) adjunct clauses contain null pronouns. But if adjunct clauses in Russian generally allow for null pronouns, why should object gaps in (3) be considered parasitic? Why can’t they be analyzed as null pronouns?

In fact, there are reasons for not doing so. For example, gaps in sentences with moved antecedents do not behave as pronouns with respect to weak crossover effect (WCO):

- (5) [Kakuju knigu]_i ty, ne čitaja ^{OK} *pg*_i /*jeë_i, vybrosil *t*_i?¹
 which_{ACC} book_{ACC} you NEG read_{CONV} it threw.away
 ‘Which book did you throw away without reading?’

If a gap in adjunct clause in (5) were a null pronoun, it would violate WCO just as in the case with the overt pronoun. However, being different in nature with null pronouns, PGs have much in common with “missing objects” in (4).

2 With or Without Real Gaps

It can be easily demonstrated that PGs in sentences of type (3) and “missing objects” in those of type (4) obey similar restrictions.

First of all, a subordinate clause containing a gap must have a phonologically null subject, controlled by the subject of the main clause:

- (6) a. Petja_j vybrosil [etu knigu]_i,
 Petja threw.away this_{ACC} book_{ACC}
 posle togo kak on_j/Kolja pročital *(jeë_i).
 after he/Kolja read it
 ‘Petja threw this book away after he/Kolja had read it.’
- b. Petja vybrosil [etu knigu]_i,
 Petja threw.away this_{ACC} book_{ACC}
 posle togo kak v gazetah *pro* *(jeë_i) obrugali.
 after in newspapers they it criticized
 ‘Petja threw this book away after it was severely criticized in newspapers.’
- c. ^{OK} Petja_j vybrosil [etu knigu]_i,
 Petja threw.away this_{ACC} book_{ACC}
 posle togo kak *pro*_j pročital *g*_i.
 after read
 ‘Petja threw this book away after he had read it.’

This holds true for PGs too:

- (7) a. [Kakuju knigu]_i Petja_j vybrosil *t*_i,
 posle togo kak on_j/Kolja pročital *(jeë_i)?
 ‘Which book did Petja throw away after he/Kolja had read it?’

¹ Adjunct clause in (5) precedes VP either by base generation or, as suggested by one of the reviewers, as a result of displacement, which took place before wh-movement.

- b. [Kakuju knigu]_i Petja vybrosil *t_i*,
 posle togo kak v gazetah *(jeë_i) obrugali?
 ‘Which book did Petja throw away after it was severely
 criticized in newspapers?’
- c. ^{OK}[Kakuju knigu]_i Petja_j vybrosil *t_i*,
 posle togo kak *pro_j* pročital *pg_i*?
 ‘Which book did Petja throw away after he had read it?’

To some extent this may be true for English also. Cf. Engdahl’s (1983) “Accessibility hierarchy for occurrence of parasitic gaps”: untensed domains (manner adverbs > temporal adverbs > purpose clauses) > tensed domains (*than* / *that* clauses > *when* / *because* / *if* clauses > relative clauses, indirect questions) — parasitic gaps are more likely to occur in domains higher on the hierarchy. As noted in Culicover (2001), “tensed domains have overt subjects, while the untensed subordinate clauses are typically subjectless gerunds or infinitives, or have PRO subject. Hence the possibility cannot be ruled out that the presence of an overt uncontrolled subject plays a role in determining the acceptability of a P-gap in a given context”. Unlike English, in Russian null subjects are possible in finite clauses. The data in (6–7) gives empirical support to Culicover’s proposal.

The nature of this restriction is questionable. However, it may serve as evidence in favor of the hypothesis that adjunct gaps in Russian (no matter if there are real movement traces or not) have common nature.

In Kayne (1983) and Chomsky (1986) it was observed that in English PGs exhibit subjacency effects (it is explained by assuming that PGs are traces of null operator movement). In Russian sentences with PGs in the same contexts (for example, in islands inside adjunct clauses) are ungrammatical:

- (8) [Kakoj žurnal]_i Vasja_j vybrosil *t_i*,
 which_{ACC} magazine_{ACC} Vasja threw.away
 [posle togo kak *pro_j* napisal statju,
 after wrote article_{ACC}
 [v kotoroj *pro_j* rugal **pg_i* ^{OK}jego_i]]?
 in which criticized it
 ‘Which magazine did Vasja throw away after he wrote the
 article, in which he criticized it?’

It is crucial that object gaps in similar sentences without overt movement are also ungrammatical:

- (9) Vasja_i vybrosil [etot žurnal]_i, [posle togo kak *pro*_i napisal statju, [v kotoroj *pro*_i rugal **pg*_i /^{OK}jego_i]]?
 ‘Vasja threw this magazine away when he wrote the article, in which he criticized it.’

3 Parasitic Gaps and Covert Movement

Antecedents of “missing objects” in sentences without real gaps must be specific. They must refer to a given discourse referent, denote a member of a previously mentioned set (cf. Enç 1991) or be “determined by the situation” (cf. Kovtunova 1976)². Cf. a conversation in (10):

- (10) —Čto ty podaril Andreju?
 what you presented Andrew_{DAT}
 ‘What have you presented to Andrew?’
 —Ja podaril jemu knigu,
 I presented him book_{ACC}
 xotja sam ne čital^{OK} je_i /^{???}g_i
 though myself NEG read it
 ‘I presented him a book although I had not read it myself.’

In (10) the antecedent of the object of the adjunct clause isn’t specific. That is why it cannot be omitted. Cf. (11):

- (11) —A otkuda u Andreja tvoja kniga?
 and where.from at Andrew_{GEN} your book
 ‘How come Andrew has your book?’
 —Ja jemu je_i podaril, xotja sam ne čital
 je_i /g_i.
 I him it presented though myself NEG read it
 ‘I presented it to him though I had not read it myself’

In (11) the antecedent of the object of the adjunct clause is specific, and that is why the variants with and without an object pronoun are both grammatical.

Given the fact that PGs and adjunct clause object gaps in sentences without overt movement have common nature, one may

² The fact that PGs are somehow dependent on specificity/non-specificity was first noted in Karimi (1999). Karimi showed that in Persian only specific objects (marked with special morpheme *-rā*) can antecede parasitic gaps.

further hypothesize that the latter gaps are in fact parasitic licensed by covert movement of an antecedent NP to Topic position (say, Spec TopP in spirit of Rizzi 1997). I shall not discuss the advantages and disadvantages of covert topicalization analysis in detail. For the purposes of the current paper it would be enough to assume that specific NPs must covertly move to the left periphery of the sentence. Below is some minor evidence in favor of this hypothesis, though, of course, it needs further support and elaboration which is not provided here.

Covert topicalization analysis permits to explain why sentences like (12) are ungrammatical.

- (12) * Ja vybrosil, ne čitaja jeëi, [etu knigu]_i.
 I threw.away NEG read_{CONV} it this_{ACC} book_{ACC}
 'I threw this book away without reading it.'³

Assuming covert topicalization analysis, these examples are ungrammatical because of WCO effect. Hence, PG is preferable:

- (13) ^{OK} Ja vybrosil, ne čitaja *pg*_i, [etu knigu]_i.
 I threw.away NEG read_{CONV} this_{ACC} book_{ACC}
 'I threw this book away without reading it.'

As pointed out higher, PGs demonstrate subjacency effects (8–9). That may be an argument in favor of the hypothesis that PGs in Russian (both in sentences with and without overt movement) are traces of some null operator (cf. Chomsky 1986, Nissenbaum 2000a, b). In (8–9), cited lower as (14 a,b), PGs are ungrammatical because the movement of an operator would violate Complex NP Constraint:

- (14) a. * Kakuju knigu Vasja_j vybrosil, [posle togo kak *Op*_i *pro*_j napisal statju, [v kotoroj *pro*_j obrugal *t*_i]]?

³ Cf. an example, which demonstrates general possibility of backward anaphora in Russian:

Kogda ja vstretil jeëi, Maša_i gor'ko plakala.
 When I met her Masha bitterly cried
 'When I met her_i, Masha_i cried bitterly.'

The absence of WCO violation in this example is due to the fact that NP *Maša* covertly moves to the left periphery of the main clause not crossing the coreferent pronoun in the preposed adjunct clause.

- b. * *Vasja_j vybrosil etu knigu*, [posle togo kak *Op_i pro_j napisal statju*, [v kotojoj *pro_j obrugal t_i]]].*

Cf. (15), where the operator doesn't move across the island border:

- (15) a. [Kakuju knigu]_j Vasja_j vybrosil, [posle togo kak
which_{ACC} book_{ACC} Vasja threw.away after
Op_i pro_j obrugal t_i]?
criticized

'Which book did Vasja throw away after he had severely criticized it?'

- b. *Vasja_j vybrosil [etu knigu]_i*, [posle togo kak
Vasja threw.away this_{ACC} book_{ACC} after
Op_i pro_j obrugal t_i].
criticized

'Vasja threw this book away after he had severely criticized it.'

The point that PGs in Russian can be licensed by covert movement may be supported further, since adjunct clause gaps can be anteceded by *wh*-phrases in-situ and by quantified NPs:

- (16) a. *Wh*-in-situ:

Ty vybrosil [kakuju knigu]_i, ne čitaja pg_i?
you threw.away which_{ACC} book_{ACC} NEG read_{CONV}
'Which book did you throw away without reading?'

- b. Quantifier raising (see also (4b)):

Ya by vybrosil [ljubuju iz etix knig]_i,
I would threw.away any/every_{ACC} from these books
daže ne čitaja pg_i.
even NEG reading

'I would throw away any of these books
without even reading it.'

4 Theoretical Implications and Topics for Further Investigation

In this paper I advocated the idea that parasitic gaps can be licensed by covert movement. The analysis presented here is inconsistent with widely adopted point of view on parasitic gaps.

Since Engdahl (1983) it was known as an empirical fact that parasitic gaps in English and many other languages (including Slavic — cf. Bondaruk 2003 for Polish) can't be licensed by covert movement. In Nissenbaum (2000a, b) it was argued for the possibility

of PGs to be licensed by covert movement — but only in cases when there is another PG licensed by overt movement. Russian data seems problematic both for Engdahl's generalization and Nissenbaum's prediction.

There were some works arguing that in world's languages there are cases which can be analyzed as parasitic gaps licensed by covert movement. For example, in Wahba (1995) it was noted that PGs in Jeddah Arabic can appear in sentences without real gaps in presence of *wh-in-situ*. In Russian PGs can be licensed directly not only by covert *wh*-movement and covert QR, but also by covert topicalization. The latter type of movement seems most intriguing because very little is known about its properties.

In Polinsky and Potsdam (2001) it is argued that the covert topicalization is found in Tsez. Morphologically marked topics in Tsez seem to undergo covert movement to TopP. This movement obeys certain standard syntactic constraints. In Russian the existence of such type of movement is perhaps less evident. The implications of covert topicalization analysis in Russian need to be discovered very accurately in a separate work.

Parasitic gaps in Russian may appear to behave in even more different way from languages of English type. For example PGs in Russian might be insensitive to A/A'-movement distinction. It can be shown that PGs are also possible in sentences with inversion (which is A-movement, according to Bailyn (2004) and Williams (2006)):

- (17) [Etu knigu]_i xvalil, čitaja ^{OK}_{pg_i} /*jeë,
 this_{ACC} book_{ACC} praised read_{CONV} it
 sam Puškin *t_i*.
 himself Puškin
 'Pushkin himself praised this book when he was reading it.'

One possible explanation could be that the parasitic gap in (17) is licensed by covert movement of inverted object to TopP. But that would be a contradiction to another generalization known about parasitic gaps, saying that real gaps cannot c-command parasitic gaps (known since Engdahl (1983)). Cf. an English example:

- (18) *Who_i *t_i* remembered talking to *pg_i*?

Another question is how to explain Engdahl's Accessibility hierarchy and the generalization made here (that the subject in the

minimal clause containing PG should be phonologically null and controlled).

One more issue for further research could be the dependency between the aspect of the verb in an adjunct clause and the possibility of PG in the same clause. There are speakers that feel contrast in grammaticality between perfective (i.e. *ne pročitav PG* in (4a)) and imperfective (*ne čitaja PG* in the same contexts) with no contrast when overt pronouns are used.

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(Non) D-Linking at the Macedonian Left Periphery*

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1 Introduction

In this paper I argue that D-linked (*which NP*) and non-D-linked (*who/what*) *wh*-phrases in Macedonian, a multiple fronting language, move to different positions in the left periphery of the clause. More specifically, I argue that D-linked (DL) *wh*-phrases occupy a position above CP, while non-D-linked (NDL) *wh*-phrases occupy positions within the CP.

Evidence for these claims comes from two sources: i) the ordering of *wh*-phrases with respect to other elements in the clause (subjects and adverbs, in particular) and ii) the intervention effects caused by elements that occupy C. The paper investigates the ordering restrictions of *wh*-phrases and subjects in single constituent questions and the ordering restrictions of *wh*-phrases and adverbs in multiple *wh*-questions. We will see that DL *wh*-phrases and NDL *wh*-phrases behave differently in such environments. The intervention effects of elements that occupy C arise in the context of multiple *wh*-questions, i.e. in cases where a *wh*-cluster is split up by an overt complementizer. The two types of *wh*-phrases pattern differently here as well.

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The analysis presented in this paper incorporates the assumption that DL *wh*-phrases behave like topics (Richards 1997, Grohmann 1998, etc.) and that NDL *wh*-phrases behave like foci (Rizzi 1997, Bošković 1998, 2001, etc.)¹. Based on this, I claim that the particular ordering restrictions on *wh*-phrases and subjects as well as *wh*-phrases and adverbs arise in cases where the fronting of *wh*-phrases interacts with the fronting of topicalized elements, such as subjects and adverbs (Rizzi 1997, 2004). This analysis is convergent with the analysis outlined in Kochovska (2006). In this paper, I adopt the proposal that DL *wh*-phrases move to positions above CP while NDL *wh*-phrases move to positions within the CP and then extend it to cases of intervention effects posed by overt complementizers in the context of multiple *wh*-questions. By doing so, this paper probes more deeply into the question of how the DL status of the *wh*-phrases determines their behavior in the *wh*-cluster and how this in turn plays out in the familiar Superiority effects we find in questions.

As already mentioned, the paper concerns the distribution of two types of *wh*-phrases: mono-morphemic *who/what* and *which NPs*. From the outset, I have identified these two types of *wh*-phrases as non-D-linked and D-linked, respectively. Therefore, brief clarification about what counts as a DL and NDL *wh*-phrase is in order here.

I follow Pesetsky (1987) in treating *which NPs* as D-linked and treating mono-morphemic *who/what* as non-D-linked². This means that a felicitous answer to a question which contains a DL *wh*-phrase (*which NP*) picks out an object from a contextually defined set or a set that has already been mentioned in the discourse. Questions with NDL *wh*-phrases (*who/what*) do not impose such requirements.³

¹ The paper does not make a fine-grained distinction between topicality and D-linking in the sense of Jaeger (2004), for example. Jaeger explicitly argues that “topicality implies (covert or overt) D-linking” and that “not everything that is D-linked is also a topic,” where topic is understood as that element which the sentence is about (Jaeger 2004: 218). It seems to me that this argument could be extended to the analysis of Macedonian. I leave this issue open.

² Pesetsky introduces the notion of D-linking to account for the absence of Superiority effects in questions with *which NPs*. He notes that *wh*-phrases which are discourse-linked are exempt from the Nested Dependency Condition and do not have to move at LF in order to get interpreted. For details see Pesetsky (1987). See also Dayal (2003).

³ Pesetsky notes that *who* and *what* can potentially be D-linked. The difference between *which NPs* and DL *who/what* is that D-linking is an inherent property of

1.1 Similarities Between DL and NDL Wh-Phrases in Macedonian

Macedonian is a multiple fronting language (Rudin 1988), which means that *wh*-phrases obligatorily front, i.e. they cannot be left in-situ.⁴ Both NDL and DL *wh*-phrases must conform to this requirement, as shown in (1a-b) and (2a-b), respectively.

- (1) a. Koj što pobara?
 who what asked
 b. *Koj pobara što?
 who asked what
 'Who asked for what?'
 (2) a. Koj student koja kniga ja pročita?
 which student which book it(F.SG.)read
 b. *Koj student ja pročita koja kniiga?
 which student it(F.SG.)read which book
 'Which student read which book?'

Given the fact that DL and NDL *wh*-phrases share this property, it is interesting to see that the behavior of the two types of *wh*'s diverges when the *wh*'s co-occur with other elements in the clause. I begin with an outline of the basic word-order patterns of *wh*-phrases and subjects and *wh*-phrases and adverbs.

the former, but not of the latter (Comorovski 1996). Although the D-linking of *who/what* gives interesting results for the ordering of *wh*'s and subjects and *wh*'s and adverbs, in the interest of space, I will not discuss these cases here. The only inherently DL *wh*-phrases in this paper are the complex *which*-phrases (Comorovski 1996). Krapova & Cinque (2006), though, note that Bulgarian *koj* 'who', though 'bare', is also inherently D-linked. A cursory investigation seems to suggest that this could be the case for Macedonian as well, but I leave these cases aside for further investigation.

⁴ The fronting requirement also applies to echo questions, which I will not discuss here. All data in this paper are multiple *wh*-questions which elicit pair-list answers.

2 Ordering Restrictions in *Wh*-Questions in Macedonian

2.1 Ordering of *Wh*-Phrases and Subjects

In single constituent questions containing NDL *wh*-phrases, a subject can either follow the verb (3a), or precede the fronted *wh*-phrase (3b), but it *cannot* intervene between the fronted *wh*-phrase and the verb (3c).

- (3) a. Što kupi Petar?
 what bought Petar
 b. Petar, što kupi?
 Petar what bought
 c. *Što Petar kupi?
 what Petar bought
 ‘What did Petar buy?’

In questions with DL *wh*-phrases, the subject can follow the verb (4a), or it can precede the fronted *wh*-phrase (4b). In addition, the subject *can* intervene between the fronted *wh*-phrase and the verb (4c).⁵

- (4) a. Koja knjiga ja kupi Petar?⁶
 which book it(F.SG.)bought Petar
 b. Petar, koja knjiga ja kupi?
 Petar which book it(F.SG.)bought
 c. Koja knjiga Petar ja kupi?
 which book Petar it(F.SG.)bought
 ‘Which book did Petar buy?’

⁵ Some speakers do not find (4c) to be completely acceptable (especially when compared to (4a)). The main point I would like to make here is that (4c) is infinitely better than (3c) and it is this intuition that the analysis tries to capture.

⁶ Questions with DL object *wh*'s have obligatory clitic-doubling; questions with NDL *wh*'s (3a-b) do not allow clitic-doubling. Although clitic-doubling is a prominent feature of questions with *which*-phrases, I will not address it here. There have been a number of studies on clitic-doubling in Bulgarian (see Arnaudova (2002), Jaeger (2004), Krapova & Cinque (2006), among others). One striking difference between the two languages is the fact that in Macedonian DL *wh*'s are obligatorily clitic-doubled; this does not seem to be the case for Bulgarian. In this paper, the clitic will be represented simply as a proclitic, attached to the verb. For detailed accounts on the syntax of clitics, see Tomić (1996), Bošković (2001), among others.

The main contrast between the examples in (3a-c) and (4a-c) is the fact that a subject *can* intervene between a fronted *wh*-phrase and the verb when the *wh*-phrase is D-linked, as in (4c), but that it *cannot* intervene between a fronted *wh*-phrase and the verb when the *wh*-phrase is non-D-linked, as in (3c). Both types of *wh*-phrases, DL and NDL, can be preceded by a subject, as shown in (3b) and (4b).

2.2 Ordering of *Wh*-Phrases and Adverbs

In multiple *wh*-questions, adverbs *cannot* intervene between two fronted NDL *wh*-phrases (cf. (5a) and (5b)). As (5b) shows, the fronting of the adverb results in ungrammaticality.

- (5) a. Koj što kupi nabrzina?
Who what bought quickly
- b. *Koj nabrzina što kupi?
who quickly what bought
'Who bought what quickly?'

The opposite holds for questions with multiple DL *wh*-phrases. In such cases, adverbs *can* intervene between two fronted DL *wh*-phrases (cf. (6a) and (6b)). In (6b), the fronting of the adverb to a position between the two *wh*-phrases does not change the grammaticality.

- (6) a. Koj student koja kniga ja kupi nabrzina?
which student which book it(F.SG.) bought quickly
- b. Koj student nabrzina koja kniga ja kupi?
which student quickly which book it(F.SG.)bought
'Which student bought which book quickly?'

The data in (5a-b) and (6a-b) shows that a *wh*-cluster which consists of two NDL *wh*'s cannot be split up by an intervening element. This becomes possible when the cluster consists of two DL *wh*'s.

The next section presents an analysis for the data in (3-4) and (5-6).

3 Analysis

The analysis presented here incorporates few key assumptions. First, the verb in *wh*-questions in Macedonian only raises to T, not C.⁷ This means that in cases where the subject follows the verb like (3a) and (4a), the subject is in-situ, i.e. in SpecvP.⁸ Second, given the fact that in the default case subjects in *wh*-questions are in-situ, I hold that the fronting of the subject to a position either before or after the fronted *wh*-phrase (as in (3b-c) and (4b-c)) is a result of topicalization (following King 1995).⁹ Following Rizzi (1997, 2004), I hold that fronted adverbs (as in (5b) and (6b)) are also topicalized. Third, the analysis incorporates the observation that DL *wh*-phrases behave like topics and therefore move to topic positions (Richards 1997, Grohmann 1998, etc.), while NDL *wh*-phrases, being inherently focused, move to positions within the CP (SpecCP and SpecFocP) (see also Bošković 1998, 2002, 2004, etc.).

With these assumptions in place, I propose an analysis whereby the derivation of questions in Macedonian is sensitive to the lexical properties of the *wh*-phrases as well as the positions to which they move (see also Dobrovie-Sorin 1990, among others). The basic claim here is that topicalized elements cannot intervene between an NDL *wh*-phrase and the verb (in the case of subjects) or between two fronted NDL *wh*-phrases (in the case of adverbs) because the *wh*-movement of the *wh*-phrase across a topic in Macedonian is prohibited. Fronted subjects and adverbs can only intervene when the *wh*-phrase is D-linked, because in this case, the movements of both elements is to a topic position, i.e. is within the same minimal domain (Chomsky 1995).

3.1 *Wh*-Phrases and Subjects

Given the assumptions outlined above, I give the derivation of the examples in (3a-c), repeated here as (7-9). In (7a), the object *wh* moves to SpecFocP to value its (intrinsic) focus features (following Bošković 1998,

⁷ The same situation obtains for Bulgarian, as shown in Izvorski (1995).

⁸ Evidence for this comes from adverb placement and interpretation tests. For details see Kochovska (2006); see also Izvorski (1995), Bošković (2004), etc.

⁹ For an alternative analysis of clitic left dislocated subjects in Bulgarian, see Arnaudova (2002).

etc.). It then moves to SpecCP, to value the *wh*-feature on C. The verb moves to T and the subject is left in-situ.¹⁰

- (7) a. Što kupi Petar?
 what bought Petar
 ‘What did Petar buy?’
 b. [_{CP} što_i C⁰ [_{FocP} t_i Foc⁰ [_{TP} kupi+T⁰ [_{VP} t_i [_{VP} Petar v⁰ [_{VP} V⁰ t_i]]]]]]]

In (8), the movement of the NDL *wh*-phrase is the same as in (7). The difference here is that the subject is fronted to a topic position above CP. In this case, there is no interference between the movement of the NDL *wh*-phrase and the topicalization of the subject. In other words, the NDL *wh* does not have to move to its SpecCP position across the topicalized subject.

- (8) a. Petar, što kupi?
 Petar what bought
 ‘Petar, what did he buy?’
 b. [_{TopP} Petar_j Top⁰ [_{CP} što_i C⁰ [_{FocP} t_i Foc⁰ [_{TP} kupi+T⁰ [_{VP} t_i [_{VP} t_j v⁰ [_{VP} V⁰ t_i]]]]]]]]]

Let’s turn now to the ungrammatical (9). Here the NDL *wh*-phrase is fronted in the usual manner: first, it moves to a SpecFocP position and then to a SpecCP position. The subject is topicalized, but in this case, the topicalization of the subject interferes with the movement of the *wh*-phrase. On the assumption that topics create minimal domains, the movement of the *wh* from SpecFocP to SpecCP would be a movement to a higher position and out of the domain of the topic (Chomsky 1995).

- (9) a. *Što Petar kupi?
 what Petar bought
 ‘What did Petar buy?’

¹⁰ I follow Baker (2003) in assuming that a combination of Agreement and Case can value the EPP feature on T. For Macedonian, Agreement + NOM case will value the EPP feature on T, thus blocking the movement of the subject to SpecTP. The prediction here is that the subject can never be in SpecTP in Macedonian. I leave this question open.

- b. [_{CP} što_i C⁰ [_{TopP} Petar_j Top⁰ [_{FocP} t_i Foc⁰ [_{TP} kupi+T⁰ [_{VP} t_i [_{VP} t_j v⁰ [_{VP} v⁰ t_i]]]]]]]]]]

The derivation of questions with DL *wh*-phrases (4a-c), repeated here as (10-12), proceeds differently. In (10), the movement of the DL *wh*-phrase is to a topic position in the left periphery. In this case, the DL *wh*-phrase moves directly to SpecCP to value the *wh*-features on C and subsequently moves to a topic position above CP. The verb moves to T; the subject is in SpecvP.

- (10) a. Koja knjiga ja kupi Petar?
 which book it(F.SG.)bought Petar
 ‘Which book did Petar buy?’
 b. [_{TopP} koja knjiga_i Top⁰ [_{CP} t_i C⁰ [_{TP} ja+kupi+T⁰ [_{VP} t_i [_{VP} Petar v⁰ [_{VP} v⁰ t_i]]]]]]]]

We saw that in questions with DL *wh*-phrases the subject can either precede or follow the *wh*-phrase. In either case, both the *wh*-phrase and the subject move to topic positions. Since the movements of both the DL *wh*-phrase and the subject are of the same type (topicalization), there is no interference between the movements of the elements. In other words, the issue of *wh*-extraction over a topic does not arise, because the movements of both the *wh*-phrase and the topicalized subject are within the same minimal domain.

- (11) a. Petar, koja knjiga ja kupi?
 Petar which book it(F.SG.)bought
 ‘Peter, which book did he buy?’
 b. [_{TopP} Petar_j Top⁰ [_{TopP} koja knjiga_i Top⁰ [_{CP} t_i C⁰ [_{TP} ja+kupi+T⁰ [_{VP} t_i [_{VP} t_j v⁰ [_{VP} v⁰ t_i]]]]]]]]]]
 (12) a. Koja knjiga Petar ja kupi?
 which book Petar it(F.SG.)bought
 ‘Which book did Peter buy?’
 b. [_{TopP} koja knjiga_i Top⁰ [_{TopP} Petar_j Top⁰ [_{CP} t_i C⁰ [_{TP} ja+kupi+T⁰ [_{VP} t_i [_{VP} t_j v⁰ [_{VP} v⁰ t_i]]]]]]]]]]

3.2 *Wh-Phrases and Adverbs*

In the case of the ordering of adverbs and multiple *wh*-phrases, I will demonstrate why it is possible for an adverb to occur between two fronted DL *wh*-phrases, but not between two fronted NDL *wh*-phrases.

DL *wh*-phrases can be separated by an intervening adverb (13) because in this case, the *wh*-phrases and the adverb target the same positions, i.e. that of topics. The movement of both the *wh*-phrases and the topicalized adverb are within the same minimal domain and there is no *wh*-extraction of the *wh*'s over an intervening topic.

- (13) a. Koj student nabrzina koja kniga ja kupi?
 which student quickly which book it(F.SG.)bought
 'Which student bought which book quickly?'
 b. [_{TOPP} koj student_i Top⁰ [_{TOPP} nabrzina Top⁰ [_{TOPP} koja kniga,
 Top⁰ [_{CP} t_i C⁰ [_{TP} ja+kupi+T⁰ [_{VP} t_i V⁰ [_{VP} V⁰ t_j]]]]]]]]]

NDL *wh*-phrases, on the other hand, do not allow for an intervening adverb (14). In such cases, the adverb would be fronted to a position before the verb by topicalization (following Rizzi 1997; see also Richards 1997). As it was the case with the subject, the topicalization of the adverb would interfere with the *wh*-extraction of the NDL *wh*-phrases to its SpecCP position.

- (14) a. *Koj nabrzina što kupi?
 who quickly what bought
 'Who bought what quickly?'
 b. [_{CP} koj_i C⁰ [_{TOPP} nabrzina Top⁰ [_{FocP} t_i što_j Foc⁰ [_{TP} kupi+T⁰ [_{VP} t_i V⁰ [_{VP} V⁰ t_j]]]]]]]]]

The remainder of this paper looks at the intervention effects found in *wh*-questions with an overt complementizer.

4 Intervention Effects of the Question Particle *li*

4.1 Location of *li*

The *li* particle is used in yes/no questions, where it is optional.^{11, 12}

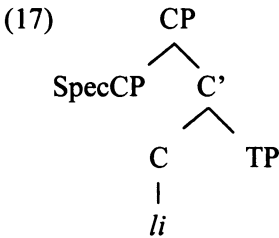
¹¹ Yes/no questions can also be formed by *dali*.

- (15) a. Kupi (*li*) Marija kniga?
 bought Q-PART Marija book
 'Did Marija buy a book?'
 b. Knigata (*li*) ja pročita Marija?
 book-the Q-PART it(F.SG.)read Marija
 'Was it the book that Marija read?'

The *li* particle cannot be used in declarative sentences.

- (16) Marija (**li*) kupi kniga.
 Marija Q-PART bought book
 'Marija bought a book.'

Following King (1995), Tomić (1996), Rudin et al (1999), I assume *li* to be a yes/no particle occupying C^0 .



-
- (i) Dali kupi Marija kniga?
 Q bought Marija book
 'Did Marija buy a book?'

¹² There seems to be difference in the interpretation of (15a) and (15b) when *li* is present, the details of which I will not go into. I will only note that (15a) questions the whole proposition, i.e. the question is asking whether or not Marija bought a book. In this case, there is no presupposition that she did. In (15b), on the other hand, the presence of *li* puts a strong focus on *the book*. In other words, there is a presupposition that Marija read something, and the question is asking for the identity of the thing that she read. This difference also holds for Russian, as noted by King (1995). Thanks also to Liliana Sanchez (p.c.) for pointing out the possibility of a different interpretation, which may lead to an alternative analysis of these constructions.

King (1995) argues that *li* is obligatory in embedded yes/no questions in Russian. The same requirement holds for Macedonian. (18b) is ungrammatical even with the appropriate intonation for yes/no questions.

- (18) a. Se prašuvam uči *li* Marko?
 REFL wonder studies Q-PART Marko
 b. *Se prašuvam uči Marko?
 REFL wonder studies Marko
 ‘I wonder if Marko is studying.’

In (18), the particle *li* selects the finite clause as a complement. I take this as evidence that *li* is a head of the complement clause.

Li can co-occur with *wh*-phrases in matrix questions (19), but it cannot co-occur in embedded ones (20).

- (19) Koj *li* ja skrši čašata?
 who Q-PART it(F.SG.)broke glass-the
 ‘Who broke the glass?’
 (20) *Se prašuvam koj *li* uči?
 RELF wonder who Q-PART studies
 ‘I wonder who studies.’

The generalizations regarding the distribution of *li* are as follows:

- i) matrix yes/no questions¹³: [CP [C V *li*] ...]
 [CP NP [C *li*] ...]
 [CP *wh* [C *li*] ...]

¹³ I will assume here that the use of the particle in matrix clauses such as (15) fulfills a clause-typing requirement. In other words, I assume that yes/no questions are clause-typed by either a special intonation or the use of the question particle *li* (Cheng 1991). However, since *li* can co-occur with *wh*-phrases in matrix questions (19), it is unclear to me what its role would be in constructions of that type. Presumably, the typing of the clause as a question in such cases would be done by the *wh*-phrase. At this point, I can only speculate about the possibility that *li* in cases like (19) acts as a focus marker (i.e. the presence of it is a realization of the focus features in the clause – Liliana Sanchez (p.c.)). This may be on the right tract, but it also raises questions about the possibility of a co-occurrence of *li* with both NDL and DL *wh*-phrases, especially with regards to the issue of topichood and focus. In addition, canonical yes/no questions with *li* (15) seem to be the only cases where the verb moves to C (rather than to T, as it is the case with *wh*-questions).

- ii) embedded yes/no questions: [CP [c V li] ...]
 [CP NP [c li] ...]
 *[CP wh [c li] ...]

We saw that *li* can co-occur with *wh*-phrases. In the next section, I will outline these co-occurrence patterns in more detail. In particular, we will see that *li* interacts differently with DL and NDL *wh*-phrases.

4.2 Intervention Effects of *li*

Rudin (1988) noted that a *wh*-cluster in languages like Macedonian¹⁴ cannot be split by an intervening element¹⁵. In Macedonian, however, the *wh*-cluster can be split up by an intervening question particle *li*¹⁶ (see also Lambova (2001) who shows that the same holds for Bulgarian).

A cluster containing NDL *wh*-phrases *can* be separated by *li*, as shown in (21) and (22). (21) shows that in questions with more than two *wh*-phrases, *li* must be between the first two *wh*-phrases (any other placement results in ungrammaticality).

- (21) Koj *li* što komu mu dade?¹⁷
 who Q-PART what whom him gave
 ‘Who gave what to whom?’
- (22) Koj *li* kade otide?
 who Q-PART where went
 ‘Who went where?’

A cluster containing DL *wh*-phrases, on the other hand, *cannot* be separated by *li*.

¹⁴ Rudin distinguishes between two types of multiple fronting languages: [+MFS] and [-MFS]. The former require obligatory fronting of all *wh*-phrases to a SpecCP position. The latter require a movement of the highest *wh*-phrase to a SpecCP position; the other *wh*-phrases adjoin to IP. Bulgarian (and Macedonian) fall in the former category; Serbian/Croatian fall in the latter.

¹⁵ These include clitics, particles and parentheticals. See Rudin (1988).

¹⁶ In this paper I put aside those cases where the *wh*-cluster is split by an intervening parenthetical.

¹⁷ Example (21) from Tomić (1996).

- (23) * Koj student *li* koja kniga ja pročitā?
 which student Q-PART which book it (F.SG.)read
 ‘Which student read which book?’

The analysis developed here accounts for the data in (21-23) by placing the DL and NDL *wh*-phrases in two different positions in the clause.

On the assumption that *li* occupies C, *li*'s intervention effects in multiple *wh*-questions can be explained as follows: NDL *wh*-phrases can be separated by *li* because the two *wh*-phrases are in SpecCP and SpecFocP, respectively.

- (24) a. Koj *li* što kupi?
 who Q-PART what bought
 ‘Who bought what?’
 b. [_{CP} koj_i *li* C⁰ [_{FocP} t_i što_j Foc⁰ [_{TP} kupi T⁰ [_{VP} t_i v [_{VP}...t_j]]]]]]

DL *wh*-phrases, on the other hand, cannot be separated by *li* because DL *wh*-phrases move to topic positions above CP.

- (25) a. * Koj student *li* koja kniga ja kupi?
 which student Q-PART which book it(F.SG.)bought
 ‘Which student bought which book?’
 b. [_{TopP} koj student_i Top⁰[_{CP} t_i *li* [_{TopP} koja kniga_j Top⁰[_{TP} ja+kupi T⁰[_{VP} t_i v [_{VP}...t_j]]]]]]]]

This analysis makes certain predictions. In particular, it predicts that two DL *wh*-phrases can precede *li*.¹⁸ The prediction is borne out, as we see in (26).

- (26) a. Koj student koja kniga *li* ja kupi?
 which student which book Q-PART it(F.SG.)bought
 ‘Which student bought which book?’

¹⁸ I should note that speakers' judgments vary in this respect. For some speakers, *li* can only occur in second position in the clause (Olga Tomić (p.c.)). In cases like (26) that would mean that *li* can only occur after *Koj* (*Koj li student koja kniga ja pročitā?*). And yet for some speakers, the position of *li* is even more flexible than as presented in this paper. I regard this to be dialectal variation.

- b. [_{TOPP} koj student_i; Top⁰ [_{TOPP} koja knjiga_j; Top⁰ [_{CP} t_i li [_{TP} ja+kupi
T⁰ [_{VP} t_i v [_{VP}...t_j]]]]]]]

The analysis also predicts that two NDL *wh*-phrases cannot precede *li*. This is due to the fact that in multiple *wh*-questions, the *wh*-phrases must occupy SpecCP and SpecFocP, respectively.

- (27) a.* Koj što li kupi?
who what Q-PART bought
'Who bought what?'

- b. [_{CP} koj_i što_j li [_{FocP} t_i t_j Foc⁰ [_{TP} kupi T⁰ [_{VP} t_i v [_{VP} ... t_j]]]]]]

To summarize: the splitting of *wh*-clusters by elements that go in C (such as *li*) is sensitive to the DL status of the *wh*-phrases. *Wh*-clusters containing two NDL *wh*-phrases can be split by an intervening *li*; *wh*-clusters containing two DL *wh*-phrases cannot. Moreover, two DL *wh*-phrases have to precede the element in C. These facts are compatible with our analysis that DL *wh*-phrases move to positions higher than that of NDL *wh*-phrases: DL *wh*-phrases move to topic positions above CP, while NDL *wh*-phrases move to SpecCP and SpecFocP (below CP).

The next section discusses the presence of Superiority effects in *wh*-questions and its relation to the DL status of the *wh*-phrases.

4.3 Mixed Patterns

4.3.1 *Superiority*. In Macedonian, questions with multiple NDL *wh*-phrases obey strict superiority requirements (Rudin 1988, Comorovski 1996, Richards 1997, Bošković 1998). This means that in questions like (28), the fronting of the *wh*-phrases must preserve the base order of the elements¹⁹.

¹⁹ Rudin (1988) was the first one to observe that multiple fronting languages differ with respect to Superiority. [+MFS] languages (e.g. Bulgarian) impose a strict ordering of the fronted *wh*-phrases; [-MFS] languages (e.g. Serbian/Croatian), do not. Bošković (1998) pointed out that Superiority in [+MFS] languages is not absolute, but that *wh*-phrases display such requirements selectively. Namely, in questions with three *wh*-phrases (subject, direct object, indirect object), the subject must be fronted first. The fronting of the other two *wh*-phrases, on the other hand, is flexible, which means that the direct object *wh* can either precede or follow the indirect object *wh*. In this paper, I only concentrate on questions with two *wh*-phrases (subject and object).

- (28) a. Koj što kupi?
 who what bought
 b. *Što koj kupi?
 what who bought
 ‘Who bought what?’

It is a well known fact that Superiority is suspended in questions with DL *wh*-phrases (see Pesetsky (1987), among many others; see Dayal (2003) for a recent survey). This is also true for Macedonian, where the order of the fronted DL *wh*-phrases in questions like (29) is flexible.

- (29) a. Koj student koja kniga ja pročita?
 which student which book it(F.SG.)read
 b. Koja kniga koj student ja pročita?
 which book which student it(F.SG.)read
 ‘Which student read which book?’

There have been several proposals in the literature concerning Superiority in questions in general and multiple fronting languages in particular. For an overview of some of these approaches, see Dayal (2003). Some of the most recent proposals include Bošković (1998, 2002), Lambova (2001), and others, where a distinction has been made between focus movement of *wh*-phrases and *wh*-movement. Bošković (2002), for example, argues that only *wh*-movement obeys Superiority; focus movement does not. Bošković argues that the difference between the two types of movements is because of their triggering factors. *Wh*-phrases that undergo focus movement do so because they need to have their intrinsic [focus] features valued. Bošković assumes that in such cases the head with which the *wh*-phrases agree has an Agree-All [focus] feature. As such, it is able to attract all of the *wh*-phrases, in no particular order. *Wh*-movement, on the other hand, is triggered by the [wh] feature on C. In this case, C always attracts the closest *wh*-phrase (Richards 1997, 1999), hence, the rise of Superiority. Bošković (2002) argues that in languages that lack Superiority effects (e.g. Serbian/Croatian), *wh*-phrases undergo focus movement only. In languages with Superiority effects (e.g. English, Bulgarian) the *wh*-phrases undergo *wh*-movement.

The analysis presented here assumes that Superiority in questions with NDL *wh*-phrases (28) comes from the fact that the *wh*-phrases occupy two different positions: SpecCP and SpecFocP. In this case, the

wh-phrases first move to SpecFocP (assumed to have an Agree-All [focus] feature, following Bošković (1998) and others). When C is merged, the closest *wh* moves to SpecCP to value the [wh] feature on C (under Attract Closest; see Richards 1997, 1999).

Lack of Superiority in DL *wh*-phrases (29) is due to the fact that the *wh*-phrases move to topic positions (see also Richards 1997). Topics in Macedonian can be freely ordered (see Kochovska (2006) for details); lack of Superiority in questions with DL *wh*-phrases follows naturally from the structural properties of the elements themselves.

Next, I look at *wh*-questions in Macedonian with an over complementizer and the various patterns that emerge once DL and NDL *wh*-phrases are introduced in such constructions.

4.3.2 *Subject DL + Object NDL*. In questions containing a DL subject *wh* (*which student*) and an NDL object *wh* (*what*), Superiority must always be observed. The only acceptable word order of the *wh*-phrases is as in (30). The NDL *wh* in these constructions is in its usual SpecCP position.

- (30) Koj student što li pročita?
 which student what Q-PART read
 'Which student read which book?'

In (31a-c), I give the alternative orderings of the *wh*-phrases. In (31a) Superiority is observed, but the NDL is not in SpecCP, hence its unacceptability. (31b) and (31c) violate Superiority. In addition, in (31b) the DL *wh* is below CP and in (31c) the NDL is not in SpecCP.

- (31) a. * Koj student li što pročita?
 which student Q-PART what read
 b. * Što li koj student pročita?
 what Q-PART which student read
 c. * Što koj student li pročita?
 what which student Q-PART read

In sum, (30) and (31) show that in questions with a DL subject *wh* and an NDL object *wh*: i) Superiority must be observed and ii) the NDL *wh* must be in a SpecCP position.

4.3.3 *Subject NDL + Object DL*. In questions containing a subject NDL *wh* (*who*) and an object DL *wh* (*which book*), Superiority is again always

obeyed with the additional proviso that the DL status of the *wh*-phrases changes.

In (32), the subject precedes the object *wh*. Note though that the subject, in this case an NDL *wh*, is in a position higher than the DL object *wh*.

- (32) Koj koja knjiga li ja pročita?
 who which book Q-PART it(F.SG.)read
 ‘Who read which book?’

The emergence of the word order in (32) can be explained by assuming that the NDL *wh* is in fact D-linked (following Comorovski (1996)). Note that here too, once the DL status of the *wh*-phrases is fixed (i.e. they are both DL), the fronting of the *wh*-phrases obeys Superiority.

In (33), the placement of the *wh*-phrases deviates from the usual pattern: the DL *wh* is now in a position below CP²⁰. Superiority, though, is observed.

- (33) ?? Koj li koja knjiga ja pročita?
 who Q-PART which book it(F.SG.)read

In (34a) and (34b), Superiority is violated and this seems to be the determining factor for the grammaticality of the examples. In addition, the NDL *wh* in (34b) is not in SpecCP.

- (34) a. *Koja knjiga koj li ja pročita?
 which book who Q-PART it(F.SG.)read
 b. *Koja knjiga li koj ja pročita?
 which book Q-PART who it(F.SG.)read

In sum, Superiority in *wh*-questions with an overt complementizer is always obeyed. In these constructions, the fronting of the *wh*-phrases must, in all cases, preserve the base order of the elements (the DL status of the *wh*-phrases does not seem to make a difference). To achieve this, in questions with subject NDL – object DL *wh*-phrases, either the NDL *wh*-phrases become D-linked or the DL *wh* is forced to occupy a position

²⁰ Judgments vary with respect to the grammaticality of these sentences. Due to space considerations, I will leave these questions open here.

below CP (less preferable of the two options). We can conclude that the overt presence of the complementizer overrules the D-linking of the *wh*-phrases. This is in complete contrast to the usual pattern where the D-linking of the *wh*-phrases alleviates Superiority effects. As it stands, the analysis developed here does not explain why the presence of an overt complementizer has these effects on the structure and the behavior of the *wh*-phrases. These issues require further investigation and I leave them for future research.

5 Conclusion

I have argued that DL and NDL *wh*-phrases in Macedonian occupy different positions at the left periphery of the clause. Evidence for this came from the ordering of *wh*-phrases with respect to subjects and adverbs. I have also shown that DL *wh*-phrases occupy a position above CP and that NDL *wh*-phrases occupy positions within the CP. Evidence for this came from questions with overt complementizers. The analysis captures the fact that a *wh*-cluster consisting of DL *wh*'s cannot be broken up by elements that go in C (*li* particle), but can be broken up by elements that go in topic positions (adverbs). The analysis captures the fact that a *wh*-cluster consisting of NDL *wh*'s can be broken up by elements that go in C (*li* particle), but cannot be broken up by elements that go in topic positions (adverbs).

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An Anti-Intervention Effect in Czech Splits: An Argument for Late Merge*

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1 Puzzle

This paper is about DP split constructions in which the subject obligatory precedes the finite verb (resulting in *SV order*) and the linearly left part of the split is not contrastively stressed (henceforth, *SV splits*). The following new observation will be of the central interest here: *SV splits* are licensed only if there is a quantifier linearly intervening between the two parts of the split.¹

Compare (1a) with (1b–c). Only (1a), with a downward-entailing quantifier (*málo studentů* ‘few students’) linearly intervening between the L-part (*nudnou* ‘boring’) and the R-part (*knihu* ‘book’), is a well formed split structure. That it is the presence of the quantifier that licenses the split construction can be shown by the two following diagnostics: (i) if we replace the quantifier with a non-quantifying nominal as in (1b), the split

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¹ In Czech, there are other types of splits, which either have *VS* word order and/or allow for contrastive stress. I will use the other types of splits for expository purposes but I will not account for their syntactic structure.

is not well formed;² (ii) if we try to overtly move the whole DP without splitting it, as in (1c), the resulting structure is not well formed either.

- (1) a. **Nudnou málo studentů četlo __ knihu.**
boring few students read book
- b. #**Nudnou Petr četl __ knihu.**
boring Petr read book
- c. #**[Nudnou knihu] málo studentů četlo.**
boring book few students read
'Few students/Petr read a boring book.' [to be revised]
- (2) Diagnostics for SV splits:
An SV split is a construction such that
- (i) the subject linearly precedes the finite verb;
- (ii) the L-part is not contrastively stressed.

The fact that SV splits are only licensed in the presence of an intervening quantifier is rather puzzling for at least two reasons. First, DP splits are known for showing an intervention effect in the sense of Beck and others (Beck 1996; Beck and Kim 1997; Pesetsky 2000; Kim 2002; Beck 2006); thus, presence of an intervening quantifier yields usually deviation, not improvement. The intervention effect is schematized in (3) and is exemplified for *wh*-splits in (4).³ Second, a syntactic derivation is rarely conditioned by a surface presence of an intervening element.

² The hash sign (#) is used to indicate an intervention effect. The intervention effect is not a straightforward type of ungrammaticality. Native speakers often accept this type of sentence when they hear or read them. However, once asked about the meaning of such a sentence or about a plausible scenario in which such a sentence could be used, they often reject their original judgment. A warning to the reader: many judgments reported here are context dependent. All examples containing contrastive stress ask for a scenario where the relevant item has already been introduced in the common ground. In contrast, SV splits crucially ask for a scenario that enforces the relevant nominal to be new in the discourse. Unfortunately, the appropriate scenarios have been omitted for space reasons.

³ In fact, the above mentioned authors talk about the intervention effect only in connection with *wh*-splits. I have observed, however, that the same restriction applies to other DP splits as well. As far as I know this observation has not been reported in the literature before. For the sake of simplicity, I assume that the syntactic structure of *wh*- and non-*wh* DPs is parallel.

- (3) Quantifiers block LF movement (*Beck's intervention effect*):
 *[[... X_i ... [QP ... t_i^{LF} ...]]]
- (4) *Wh*-split DPs:
- #**Koho** *málo studentů* vidělo __ **z muzikantů**?
 whom few students saw from musicians
 - Koho** Petr viděl __ **z muzikantů**?
 whom Petr saw from musicians
 - Koho z muzikantů** vidělo *málo studentů*?
 whom from musicians saw few students
 'Who from the musicians did few students/Petr see?'

I will call this well-formedness condition on SV splits *an anti-intervention effect*.⁴

- (5) Anti-intervention effect:
 An SV split is licensed only if there is a quantifier intervening between the L-part and the R-part of the split.

SV splits contrast with other Czech splits with respect to (5). Examples in (6) show splits in which the verb obligatory precedes the subject (*VS splits*); examples in (7) show splits with the L-part contrastively stressed (*F splits*). As we can see, applying the same diagnostics as to the SV splits leads to the exact opposite result: neither parts of a VS split nor parts of an F split can be linearly separated by a downward-entailing quantifier, as witnessed by (6a) and (7a). In contrast, these types of splits are well formed if the quantifier is replaced with a non-quantifying DP, as in (6b) and (7b). In the given configuration it is also possible to move the whole DP to the left across the quantifier, as in (6c) and (7c).

⁴ An anonymous reviewer suggested that the *wh*-intervention effects might be a result of a partitive effect in the scope of the intervening quantifier. Even though this might be a plausible explanation or examples in (4), *wh*-intervention effects are independent from partitive constructions and they arise outside of split constructions as well. Thus I prefer not to tie the intervention effect to the partitive property of a subset of the constructions and I prefer a more general account such as that of Beck (2006).

- (6) Splits with the verb preceding the subject (VS splits):
- a. #**Nudnou** četlo *málo studentů* __ **knihu**.
boring read few students book
 - b. **Nudnou** četl Petr __ **knihu**.
boring read Petr book
 - c. **Nudnou knihu**_F četlo *málo studentů*.
boring book read few students
'Few students/Petr read a/the boring book'
- (7) DPs with the fronted part contrastively stressed (focused and presupposed) (F splits):
- a. #**NUDnou**_F *málo studentů* četlo __ **knihu**.
boring few students read book
 - b. **NUDnou**_F Petr četl __ **knihu**.
boring Petr read book
 - c. **NUDnou**_F **knihu** četlo *málo studentů*.
boring book read few students
'It was a/the boring book that few students/Petr read.'⁵

I assume that from a syntactic point of view Czech split DPs form a heterogeneous set, but I will not attempt to account here for VS splits and F splits.⁶ My goal is to provide an analysis of SV splits and of the fact that they must be licensed by a quantifier.

I will argue that SV splits are derived by *covert movement* of the R-part followed by *late merge* of the L-part. I will show that the covert movement is semantically driven movement and as such must always result in a new semantic interpretation (Fox 2000). Thus I will argue for SV splits being analyzed as a case of extraposition to the left (in the sense of Fox and Nissenbaum 1999).

Example (8) lists the interveners that can license SV splits. Notice that existential quantifiers do not license SV splits. One of the tasks of the

⁵ I translate F splits as clefts because, as clefts, they combine focus and exhaustiveness interpretation. I will not comment on the exact semantics of F splits here, though.

⁶ The reader should not be misled by my surface oriented classification of Czech splits: I do not claim that VS splits and F splits form syntactically uniform sets. The proposed classification is meant to provide a diagnostics for SV splits in order to distinguish them from other similar structures.

I propose that Czech SV splits are a case of extraposition to the left under a Fox-Nissenbaum analysis of extraposition. I will argue that the L-part of the split is late merged. It means that it is merged only after the R-part has undergone covert movement, as in (12).

- (12) a. **Nudnou žádný student** nečetl **__ knihu.**
 boring no student not-read book
- b. Covert movement of the NP:
 $[_{XP} \text{book} [_{TP} [_{QP} \text{no student}] [_{vP} \text{read book}]]]$
- c. Late merger of the adjective:
 $[_{XP} [_{NP} \text{boring book}] [_{TP} [_{QP} \text{no student}] [_{vP} \text{read book}]]]$

I will argue that the structure like (12c) gets interpreted as in (13), i.e., that there is an existential above and below the intervening quantifier. The formula in (13) can be informally paraphrased as ‘there is a set of boring books and there is no student such that the student read a book from the set of boring books’.⁷

- (13) $\exists x[\text{books}(x) \ \& \ \text{boring}(x) \ \& \ \neg y[\text{student}(y) \ \rightarrow \ \exists z \leq x : [y \text{ read } z]]]$

To make the argument sound, I will first give arguments for SV splits being derived by movement (cyclicity and sensitivity to islands). Then I will provide arguments for late merge (restrictions on the fronted part, reconstruction and variable binding facts). In the last part of the paper I will address the question of interpretation and I will propose a possible derivation.

⁷ Notice that even though the actual example in (12a) contains a singular ‘book’, the interpretation refers to a set, i.e., plurality, of books. I will argue in 4.2 that the plurality interpretation comes from a presence of a salient partitive quantifier and the singular does not have a corresponding semantic reflex (see for example Sauerland (2003) for an argument for independence of morphological and semantic number).

2 Movement

This section provides an argument that some form of movement is involved in the derivation of SV splits. I will show in 2.1 that long distance SV splits are possible and they strictly obey a generalization which I will call *successive cyclic intervention*. In 2.2 I will show that SV splits obey islands. I argue that these two properties suggest that SV splits are derived by some form of movement, rather than being base generated in its surface position.

2.1 *Successive Cyclic Intervention*

Long-distance SV splits are possible but there must be a licensing intervener in every clause. I will call this empirical restriction successive cyclic intervention. I argue that successive cyclic intervention is a reflex of a restriction on movement in general. According to this restriction, movement must proceed in clause-bound (more precisely, phase-bound) steps and each step must be independently licensed. Thus, if a long-distance SV split involves movement and movement is licensed by an intervening quantifier we expect that for each clause there must be a licensing quantifier. As shown in (14a–b), long distance SV splits are not licensed if a licensing intervener appears only in the matrix (14a) or only in the embedded clause (14b). Sentence (14c), in contrast, with an intervener both in the matrix and in the embedded clause, is well formed.

- (14) a. #**Nudnou málo studentů** řeklo, že Petr četl __ **knihu**.
boring few students said that Petr read book
'Few students said that Petr read a boring book.'
- b. #**Nudnou** řekl Petr, že *málo studentů* četlo __ **knihu**.
boring said Petr that few students read book
'Petr said that few students read a boring book.'
- c. **Nudnou málo studentů** řeklo, že *žádný student* nečetl __ **knihu**.
boring few students said that no student not-read book
'Few students said that no student read a boring book.'

2.2 *Sensitivity to Islands*

Long distance SV splits are possible only if no island intervenes. Examples in (15) show that long distance SV splits obey the Complex NP island constraint (15a), the Coordinate structure constraint (15b), the

Relative clause island constraint (15c), the Subject island constraint (15d), the *Wh*-island constraint (15e), and the Adjunct island constraint (15f).

- (15) a. ***Zajímavou** málo studentů překvapilo tvrzení, že žádná dívka nečetla __ **knihu**.
interesting few students suprised claim that no girl not-read book
'Few students were surprised by the claim that no girl read an interesting book.'
- b. ***Nudnou** málo studentů nepřineslo ani dopis ani __ **knihu**.
boring few students not-brought nor letter nor book
'Few students brought neither a letter nor a boring book.'
- c. ***Nudnou** málo studentů vidělo chlapce, který zřídka přinesl __ **knihu**.
boring few students saw boy that rarely brought book
'Few students saw a/the boy that rarely brought a boring book.'
- d. ***Zajímavá** málo studentů si myslí, že zřídka __ **knih**a byla na stole.
interesting few students REFL thinks that rarely book was on table
'Few students think that an interesting book was rarely on the table.'
- e. ***Zajímavou** málo studentů váhá, zda žádný profesor nepřinesl __ **knihu**.
interesting few students wonder whether no profesor not-brought book
'Few students wonder whether no professor brought an interesting book.'
- f. ***Nudné** málo studentů bylo v kině bez __ **dívky**.
boring few students was in cinema without girl
'Few students went to movies without boring girl.'

I have shown in this section that the SV splits formation exhibits movement properties, i.e., it proceeds in cyclic steps and it obeys syntactic islands.




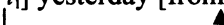
3 Arguments for Late Merge

The proposed analysis crucially assumes that the L-part of the split is late merged in its surface position. Notice that this assumption does not contradict empirical results of the previous section since I assume that the late merge of the L-part is conditioned by *covert* movement of the R-part.

I will show that SV splits share two crucial properties with English right extraposition: (i) SV splits are sensitive to an adjunct-complement distinction even though the distinction is irrelevant for other types of splits; (ii) SV splits behave as extraposition with respect to Condition C, Condition A and variable binding.

3.1 Restrictions on the L-part of the Split

Even though overt movement of adjuncts is in general less common than overt movement of complements, as can be seen for example in (16), English extraposition to the right shows the opposite pattern, as seen in (17).⁸

- (16) a. [Of whom]_i did you see [a painting *t_i*]?

- b. *?? [From where]_i did you see [a painting *t_i*]?

- (17) a. ?? I saw [the best picture *t_i*] yesterday [of the museum]_i.

- b. I saw [the best picture *t_i*] yesterday [from the museum]_i.


As we have seen in Section 1, Fox and Nissenbaum (1999) account for the contrast between adjunct and complements in extraposition by arguing that adjuncts can be late merged. Thus they can be adjoined to a covertly moved argument. Complements, on the other hand, do not have such an option.

⁸ Extraposition data are in fact more complex. They are, for example, sensitive to definiteness of the phrase an element is extracted from (see Fox and Nissenbaum (1999) for more examples). What is important for the current discussion is that there is a difference between adjuncts and complements that is not attested in other types of movement.

As can be seen in (18), Czech SV splits pattern with English extraposition in that complements are not attested as the L-part of SV splits. The same point is made more clearly in (19). In (19), a minimal pair illustrating the relevant distinction between adjunct versus complement is provided by the Czech counterpart for 'story'. There are two nouns with this meaning: one is a deverbal noun selecting a complement, the other one is not deverbal and does not select a complement. Only the non-deverbal noun (19a) can serve as a base for an SV split. In contrast, the complement selecting noun (19b) cannot be split in this way.

- (18) a. ***Honzy** málo studentů znalo **příbuzného** __ .
of-Honza few students knew relative
'Few students knew a relative of Honza.'
- b. ***Dortu** málo dětí jedlo **polovinu** __ .
of-cake few children ate half
'Few children ate a half of a cake.'
- (19) a. **O veverkách** málo dětí četlo **příběh** __ .
about squirrels few children listen story
- b. ***O veverkách** málo dětí četlo **vyprávění** __ .
about squirrels few children listen telling
'Few children listened to a story about squirrels.'

As can be seen in (20), which illustrate complement fronting in F splits, there is no general ban on fronting complements; the ban applies only to SV splits. The L-part in (20) is always contrastively stressed and presupposed, in contrast to SV splits that do not have such properties. I take the adjunct-complement asymmetry as evidence that the L-part of an SV split has been late merged.

- (20) a. **HONzy** každý student znal **příbuzného** __ , ne Petra.
of-Honza every student knew relative not of-Petr
'It was a relative of Honza that every student knew, not a relative of Peter.'
- b. **DORTu** málo dětí jedlo **polovinu** __ .
of-cake few children ate half
'It was a half of a cake that few children ate.'

- c. **O VEVERkách** každé dítě poslouchalo **vyprávění** __ ,
ne o slonech.
about squirrels every child listen telling not about
elephants
'It was a story about squirrels that every child listened
to, not a story about elephants.'

3.2 Reconstruction and Variable Binding Facts

Another argument for the late merge analysis comes from binding facts. First, Condition C effects show that the L-part does not need to reconstruct, as seen in (21). These examples parallel the logic of the discussion of English extraposition in (10)–(11).

- (21) a. **Cimrmanem, podepsanou** *jen on_i* řekl, že *málo dívek*
četlo __ **knihu**.
by-Cimrman signed only he said that few girls read
book
'Only Cimrman said that few girls read a book signed by
him.'
- b. ***CIMrmanem, podepsanou** *jen on_i* řekl, že Marie četla
__ **knihu**.
by-Cimrman signed only he said that Marie read book
- c. ***Cimrmanem, podepsanou** řekl *jen on_i*, že Marie četla
__ **knihu**.
by-Cimrman signed said only he that Marie read book
'Only Cimrman said that Marie read a book signed by
him.'

Sentence (21a) shows a construction with an SV split. As we can see, *Cimrman* is coindexed with *he* without introducing a Condition C violation. In contrast, (21b) containing an F split and (21c) containing a VS split do violate Condition C. The contrast between (21a) on the one hand and (21b) and (21c) on the other suggests that the L-part in (21a) has been late merged, while the L-part in (21b) and (21c) has overtly moved from a position c-commanded by *he*. The example in (22a) illustrating Condition A effects shows that the L-part in an SV split not only does not need to reconstruct, but in fact cannot reconstruct.

- (22) a. ?? **Sobě samému, věnované** každý student_i čte __ **knihy**.
self identical dedicated every student reads books
'Every student reads books dedicated to himself.'
- b. **SOBĚ samému, věnované** každý student_i čte __ **knihy**.
self identical dedicated every student reads books
- c. **Sobě samému, věnované** čte každý student_i __ **knihy**.
self identical dedicated reads every student books
'It is books that were dedicated to him that every student reads.'

The logic of the argument is that if there were a copy of the anaphoric pronoun c-commanded by 'every student', the anaphor could have reconstructed in order to avoid a Condition A violation. That reconstruction is not available suggests that there is no lower copy to reconstruct to. In contrast, the L-part of an F split (22b) and the L-part of a VS split (22c) do not violate Condition A. The contrast in (22) suggests that reconstruction in order to avoid a violation of Condition A is available for Czech split constructions only if there is a lower copy the L-part can reconstruct to. In turn, the Condition A facts support the hypothesis that the L-part of an SV split has been late merged on the left periphery.

Lack of a reconstruction site for SV splits is further supported by variable binding facts given in (23a). In contrast, reconstruction is available both for F splits (23b) and VS splits (23c).

- (23) a. ***O veverkách, které pro_i dal paní Zemanové,** každý ministr_i četl __ **knihy**.
about squirrels that he gave Mrs. Zemanová every minister read book
- b. **O VEVERKách, které pro_i dal paní Zemanové,** každý ministr_i četl __ **knihy**.
about squirrels that he gave Mrs. Zemanová every minister read book
- c. **O veverkách, které pro_i dal paní Zemanové,** četl každý ministr_i __ **knihy**.
about squirrels that he gave Mrs. Zemanová read every minister book
'For every minister, the topic of the book that he read was the squirrels that he gave to Mrs. Zemanová.'

4 Interpretation

The previous two sections have supported the argument that SV splits are derived by movement and that the L-part of such a split is late merged. In this section I will argue that this is a case of economy driven movement obeying Fox's Economy condition on scope shifting, given in (24). I will argue that it is the R-part of the split (NP) that moves *covertly* in order to gain another semantic interpretation.

The obvious question to ask at this point is what the new semantic interpretation that triggers the movement is. I will argue that the covert movement leads to interpreting an existential above the intervening quantifier. Interestingly, the R-part is interpreted *in situ* as well.⁹ One existential quantifier is thus *simultaneously* interpreted both in the scope and above the scope of the intervening quantifier. An example of an interpretation achieved by this syntactic strategy is given in (25), which can be paraphrased as 'there is a set of boring books and there is no student such that the student read a book from the set of boring books'.

(24) Scope Economy (Fox 2000: 26):

[A scope shifting operation] can move XP_1 from a position in which it is interpretable only if the movement crosses XP_2 and $\langle XP_1, XP_2 \rangle$ is not scopally commutative.

$\langle XP_1, XP_2 \rangle$ is scopally commutative (when both denote generalized quantifiers)

if for every model, and for every $\varphi \in D_{\langle e, et \rangle}$,

$[[XP_1]](\lambda x [[XP_2]](\lambda y \varphi(y)(x))) = [[XP_2]](\lambda y [[XP_1]](\lambda x \varphi(y)(x)))$.

(25) a. Nudnou žádný student nečetl knihu.
boring no student not-read book

b. $\exists x [\text{books}(x) \ \& \ \text{boring}(x) \ \& \ \neg y [\text{student}(y) \ \rightarrow \ \exists z \leq x : [y \ \text{read} \ z]]]$

In the first part of this section I will provide an argument for two independent interpretations of the existential quantifier. In the second part I will sketch the proposed analysis in more detail. The task of Section 4.2

⁹ This is not really accurate. In Section 4.2 I will argue that the NP in fact undergoes short movement for interpretation purposes. What is important for the discussion here is that the R-part gets interpreted under the intervening quantifier.

is to account for both the wide scope of the existential and the narrow scope.

4.1 Two Existential Quantifiers

Downward-entailing quantifiers provide a good testing environment for the presence of two independent interpretations of an existential. The structure in (25b) predicts that the downward-entailing quantifier *žádný* ‘no’ can eliminate the existential assertion introduced by the existential in the scope of the downward-entailing quantifier. However, if there is an existential interpreted outside of the scope of the downward-entailing quantifier, an utterance containing an SV split should still be able to result in existential assertion. This prediction is borne out, as can be seen in (26) on the interaction of an SV split with an anaphoric pronoun. In (26a) the pronoun ‘them’ is felicitous since the SV split asserts existence of a set of interesting books.¹⁰ In contrast, other types of splits, as in (26b), lack the ability to introduce the assertion force outside of the downward-entailing quantifier, thus the pronoun fails to pick up an antecedent in the given context.

- (26) a. *Zajímavé žádný student nečetl __ knihy. Zadal je profesor Bernard.*
 interesting no student not-read books. assigned them professor Bernard
 ‘There were interesting books and no student read them. They were assigned by professor Bernard.’
- b. *#Žádný student nečetl zajímavé knihy. Zadal je profesor Bernard.*
 no student not-read interesting books. assigned them professor Bernard
 ‘No student read interesting books. They were assigned by professor Bernard.’

A similar point can be made once we consider assertion of something that is assumed not to exist in the actual world, for example a white unicorn. By uttering (27a) the speaker asserts that there are few members of her family that would like to have a white unicorn. We cannot learn anything

¹⁰ I assume a context where a set of interesting books has not been introduced in the common ground yet.

about the speaker's beliefs about white unicorns. In contrast, by uttering (27b) the speaker commits herself to believing that there are white unicorns in the actual world. The contrast between (27a) and (27b) supports the analysis that an SV split allows an existential to be interpreted outside of the scope of the intervening quantifier.

- (27) a. **Málo členů** mojí rodiny chce mít **bílého jednorozce**.
few members of-my family wants to-have white unicorn
'Few members of my family want to have a white unicorn.'
- b. **Bílého málo členů** mojí rodiny chce mít **__ jednorozce**.
white few members of-my family wants to-have unicorn
'There are white unicorns and few members of my family want to have a white unicorn.'

If the new semantic interpretation introduced by an SV split is an existential over the intervening quantifier, it follows that interveners can be only elements that while being crossed by the existential result in a new semantic interpretation.¹¹ Existential quantifiers are thus expected not to be good interveners. The example in (28) shows that this prediction is correct.¹²

- (28) #Nudnou nějaký student četl knihu.
boring some student read book
'Some student read a boring book.'

To sum up, this subsection provided an argument for SV splits being derived by semantically driven movement. We have also seen that the proposed analysis accounts for the fact that existential quantifiers do not license SV splits even though they otherwise behave as interveners with respect to Beck's intervention effect. The goal of the next subsection is to provide more details on the actual derivation and the corresponding semantic interpretation.

¹¹ Recall that scope motivated movement arises only if the relevant XPs are not commutative, (24).

¹² Notice that the lack of a new semantic interpretation is also the reason why SV splits do not arise over a non-QP, such as 'Petr' in (1b).

4.2 Derivation

The proposed analysis relies on two basic semantic ingredients: as the interpretation given in (25b) suggests, (i) the relevant meaning involves existential quantification over pluralities, (ii) the semantic relation in the scope of the intervening quantifier is a partitive relation.

I argue that the derivation proceeds in several steps: before the actual movement for scope-shift purposes occurs, the R-part of the split undergoes a short movement for interpretability purposes. The structure is completed by late merge of an adjunct.

I argue that the R-part of a split is an existential NP, i.e., $\langle et, t \rangle$. The NP is selected by a silent partitive generalized quantifier, i.e., $\langle e, \langle et, t \rangle \rangle$.¹³ It is this quantifier that introduces the partitive reading. Furthermore, I assume here that an existential does not pick one individual but it picks up a set of plural individuals. I argue that the common singular reading that we associate with existentials is in fact only an implicature and it is not encoded in the semantic meaning of the quantifier.¹⁴

Following Matthewson (2001) I argue that this is not an interpretable structure since quantifiers ask for a sister of type $\langle e \rangle$. Thus the NP must move for interpretability reasons. By Trace Conversion Rule, defined in (29), the NP trace is of type $\langle e \rangle$, i.e., combinable with the partitive quantifier. The first step of the derivation is schematized in (30).

(29) Trace Conversion (Fox 2003):

ϕ
 $\swarrow \searrow$
 $Y P_n$

For Tree $Y P_n$ ϕ , interpret ϕ as a function that maps an individual, x , to the meaning of $\phi [x/n]$. $\phi [x/n]$ is the result of replacing the head of every constituent with the index n in ϕ with the head the_x , whose interpretation, $[[the_x]]$, is $\lambda P. [[the]] (P \cup \lambda y. y = x)$.

¹³ The partitive quantifier is in the following derivation labeled as *of*. Its lexical entry is defined in (i).

(i) $[[of]] = \lambda x \in D_e. \lambda f \in D \langle e, t \rangle. \exists y \text{ such that } f(x) \leq f(y) \wedge f(y) = 1$

¹⁴ I assume that the morphological singular on the noun is a default realization. Furthermore, I assume that the semantic number and the morphological number are not identical, following Sauerland (2003), among others.

(30) Covert movement of NP *book* for interpretability reasons:

- a. $[_{ofP} \langle et, t \rangle [\text{of} \langle e \langle et, t \rangle \rangle \text{book} \langle et, t \rangle]]$
- b. $[_{XP} \text{book} \langle et, t \rangle [_{XP} \lambda X [_{ofP} \langle et, t \rangle [\text{of} \langle e \langle et, t \rangle \rangle \text{book} \langle et, t \rangle]]]]$

The result of this step is a structure with three elements of type $\langle et, t \rangle$, i.e. generalized quantifiers: the existential NP (*a*) *book*, the *ofP* and the intervening quantifier *no*. I assume that they all undergo movement outside of *vP* in order to be interpretable (Heim and Kratzer 1998).¹⁵

In the next step, the existential NP *book* undergoes a scope-shifting operation over the quantifying intervener *no*. This step of derivation is schematized in (31).

(31) Covert movement of *book*:

- $[\langle t \rangle (\text{a}) \text{book} \langle et, t \rangle [\langle et \rangle \lambda X [\langle t \rangle \text{no student read (a) book}]]]$

In the last step, an adjective is late merged, resulting in a structure given in (32).

(32) Late merge of adjective *boring*:

- $[\langle t \rangle (\text{a}) \text{boring book} \langle et, t \rangle [\langle et \rangle \lambda X [\langle t \rangle \text{no student read (a) book}]]]$

Notice that the obtained structure has two instances of the existential, under the quantifier and above the quantifier. Thus, we can understand why both wide and narrow scope might be available. However, it is still not obvious why they both should be interpreted simultaneously. I argue that this is a result of the covert movement and overt marking of the landing site by the late merge of the adjective. Czech usually interprets quantifiers in their surface position. Thus the narrow scope comes from the overt realization of the existential below the quantifier. On the other hand, the late merged adjective marks overtly the wide scope of the existential. I argue that the late merge strategy is in place exactly to mark overtly two distinct interpretations of one existential. Without the adjective being late merge, the two scopes could not be available.

¹⁵ I skip details of this step because it does not affect scope relations between the relevant quantifiers.

5 Conclusion

I have argued that a successful analysis of split DP constructions should assume that splits do not form a homogenous syntactic set. Instead, there are at least two different syntactic strategies to derive a split DP. Either the split can be motivated by feature incompatibility of the parts involved in the split, or a split can be driven by scope-shifting requirements of the noun involved. I have presented new data from Czech representing the latter type of the split constructions. I have argued that this particular type of split is derived by semantically driven movement followed by late merge of the linearly left part.

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On the Structure and the Distribution of Negative Concord Items in Slavic*

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1 Introduction

Negative Concord Items (NCIs) in Slavic languages typically require the presence of clausemate sentential negation, as exemplified by the data drawn from Russian in (1).

- (1) a. ***Nikto** zvonil.
anyone called
'(Lit.)Anyone called.'
b. **Nikto ne** zvonil.
anyone Neg called
'Nobody called.'

Despite the simplicity of their syntactic distribution, no principled account has been presented that goes beyond a mere stipulation that NCIs carry a certain feature that needs to be licensed by clausemate sentential negation, where the relevant feature and the manner of licensing varies from an "anaphoric negative polarity" feature in need of binding by sentential negation (Progovac 1994), an uninterpretable Neg-feature that needs to be checked off by sentential negation (Brown 1999) to an uninterpretable focus feature to be deleted by sentential negation (Watanabe 2004).

This paper attempts to derive the distribution of NCIs in Slavic

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languages by morphologically decomposing them, examining the semantic contribution of their ingredients and comparing their structure to that of Negative Polarity Items (NPIs) in Hindi. This will be the main task of the next section. The rest of the paper is organized as follows. Section 3 takes up two alternative approaches to NCIs, one by Brown (1999) and the other by Watanabe (2004), and argues that the present approach is preferable for both conceptual and empirical reasons. Section 4 discusses two implications of the proposed analysis. Section 5 concludes the paper.

2 Decomposing NCIs and NPIs

NCIs should be distinguished from NPIs, the difference being that the former can occur only in the presence of clausemate sentential negation while the latter can be found not only in the scope of clausemate negation but in non-negative downward entailing contexts. Thus, NCIs in Russian are ruled out in contexts such as those exemplified by (2) while NPIs in Hindi are licensed in the same type of environments, as in (3a,b), as well as under the scope of clausemate sentential negation, as in (3c).

- (2) a. * **Nikto** zvonil?
 anyone called
 'Did anyone called?'
- b. * **Esli** vy vstretite **nikogo**, pozvonite mne.
 if you meet anyone call me
 'If you meet anyone, call me.'
- (3) a. tumheN **kuch bhii** pasand aayii kyaa
 you anything like Q
 'Did you like anything?'
- b. agar tum **kisii-ko bhii** dekho to mujhe bataao
 if you anyone-Acc see (subj) then me tell
 'If you see anyone, inform me.'
- c. maiN-ne **ek bhii** aadmii-ko nahiiN dekhaa
 I Erg anyone man Neg saw
 'I did not see any man.' (Lahiri 1998)

In what follows, I will argue that the observed difference can be explained by decomposing the relevant items in question and exploring the semantic contribution that each component makes.

Let me begin with NPIs in Hindi by briefly reproducing Lahiri's (1998) analysis thereof, which will form a basis for the upcoming discussion of NCIs in Slavic. According to Lahiri (1998), NPIs in Hindi consist of a weak cardinality predicate **one** that is true of everything that exists and a focus particle, as is exemplified by *ek bhii*, which consists of *ek* 'one' and *bhii* 'even.' This analysis is extended to other NPIs such as *kuch bhii* 'anything' and *koi bhii* 'anybody', where the indefinite parts *kuch* 'something' and *koi* 'someone' are assumed to express a weak cardinality predicate **one**.

Assuming that sentences with the focus particle induce the two implicatures given in (4), Lahiri (1998) demonstrates that the NPI sensitivity is derivable from the semantics of focus in combination with the nature of the numeral **one**.

- (4) a. $\exists p[C(p) \wedge \forall p \wedge p \neq a]$
 b. $\forall p[[C(p) \wedge p \neq a] \rightarrow \text{likelihood}(p) > \text{likelihood}(a)]$,
 where a is the assertion and C is the set of the focus-induced alternatives to a .

To illustrate the role of *bhii*, let us consider the meaning of a simple sentence like (5), where the proper name *Raam* is associated with the focus particle.

- (5) RAAM_F bhii aayaa
 Raam even came
 'Even Raam came.'

The proposition asserted by this sentence is 'that Raam came.' Given that the proper name is focused, the alternative set to it will consist of contextually determined proper names such as {*raam*, *siitaa*, *mohan*, ...}. The focus-induced alternatives to this proposition are thus a set of the form {'that Raam came', 'that Siitaa came', 'that Mohan came', ...}. Then, by the lexical property of the focus particle given in (4), the two implicatures in (6) obtain.

- (6) a. Someone else other than Raam came.

- b. For every individual x other than Raam, if x came, then the likelihood that x came is higher than the likelihood that Raam came.

With this in mind, let us now consider the contrast in (7).

- (7) a. *Koiif bhii aayaa
 someone even came
 ‘(Lit) Anyone came.’
 b. Koiif bhii nahiiN aayaa
 someone even Neg come
 ‘No one came.’ (Lahiri 1998)

Under the assumption that *koi* ‘someone’ expresses a cardinality predicate **one**, the proposition asserted by (7a) is represented as in (8).

- (8) $\exists x[\mathbf{one}(x) \wedge x \text{ came}]$

The set of focus-induced alternatives to this proposition will be $\{\wedge \exists x[\mathbf{one}(x) \wedge x \text{ came}], \wedge \exists x[\mathbf{two}(x) \wedge x \text{ came}], \wedge \exists x[\mathbf{three}(x) \wedge x \text{ came}]\dots\}$, which obtains by replacing the focus-associated **one** with its alternatives, **two**, **three** etc. The implicatures that arise from this alternative set will be (9).

- (9) a. For some cardinality predicate other than **one**, say Z , $\exists x[Z(x) \wedge x \text{ came}]$
 b. For every cardinality predicate other than **one**, say, U , if $\exists x[U(x) \wedge x \text{ came}]$, then $\text{likelihood}(\wedge \exists x[U(x) \wedge x \text{ came}]) > \text{likelihood}(\wedge \exists x[\mathbf{one}(x) \wedge x \text{ came}])$

It is intuitively clear that these implicatures are odd. The oddity stems from the fact that from (9a, b), (10) follows whereas due to the nature of the alternatives to **one**, (11) is true, from which (12) follows.

- (10) $\text{likelihood}(\wedge \exists x[Z(x) \wedge x \text{ came}]) > \text{likelihood}(\wedge \exists x[\mathbf{one}(x) \wedge x \text{ came}])$
 (11) $\exists x[Z(x) \wedge x \text{ came}] \rightarrow \exists x[\mathbf{one}(x) \wedge x \text{ came}]$
 (12) $\text{likelihood}(\wedge \exists x[Z(x) \wedge x \text{ came}]) \leq \text{likelihood}(\wedge \exists x[\mathbf{one}(x) \wedge x \text{ came}])$

Witness that (12) contradicts (10). This means that NPIs in Hindi

systematically produce contradictory implicatures in upward entailing contexts in general. This explains the ungrammaticality of structures such as (7a). See Lahiri (1998) for detailed discussion.

By contrast, the NPI can occur in downward entailing contexts such as negative contexts, as in (7b), which asserts (13) and yields the implicatures given in (14).

(13) $\sim\exists x[\mathbf{one}(x) \wedge x \text{ came}]$

(14) a. For some cardinality predicate other than **one**, say *Z*, $\sim\exists x[Z(x) \wedge x \text{ came}]$

b. For every cardinality predicate other than **one**, say, *U*, if $\sim\exists x[U(x) \wedge x \text{ came}]$, then $\text{likelihood}(\sim\exists x[U(x) \wedge x \text{ came}]) > \text{likelihood}(\sim\exists x[\mathbf{one}(x) \wedge x \text{ came}])$

These implicatures are not contradictory. (14a,b) imply (15).

(15) $\text{likelihood}(\sim\exists x[Z(x) \wedge x \text{ came}]) > \text{likelihood}(\sim\exists x[\mathbf{one}(x) \wedge x \text{ came}])$

By the law of contradiction, (16) obtains from (11).

(16) $\sim\exists x[\mathbf{one}(x) \wedge x \text{ came}] \rightarrow \sim\exists x[Z(x) \wedge x \text{ came}]$

From (16), we get (17), which does not contradict (15).

(17) $\text{likelihood}(\sim\exists x[\mathbf{one}(x) \wedge x \text{ came}]) \leq \text{likelihood}(\sim\exists x[Z(x) \wedge x \text{ came}])$

Lahiri (1998) claims that this generally applies to other downward entailing contexts, which can be verified by replacing the negative operator in (13) through (17) with some other downward entailing operator. This way, Lahiri succeeds in deriving the polar sensitivity of NPIs in Hindi from the semantics of focus and the nature of **one**.

Turning now to NCIs in Slavic and the semantic contribution of their components, let us take up an NCI in Russian, *nikto* 'anyone.' Haspelmath (1997) analyzes this item as consisting of three parts *n-* 'not', *-i-*, 'even' and *-kto* 'who.' Notice that this expression contains a focus element *-i-*, just like *bhii* in NPIs in Hindi. What is the role of a *wh*-part? Does it correspond to the indefinite part of NPIs in Hindi? Suppose that the *wh*-part can be viewed as an indefinite that expresses a cardinality

predicate **one**. Then we can hypothesize that NCIs in Slavic and NPIs in Hindi differ solely in one point, i.e., the former contain a negative element in the form of a prefix-like element *n-* while the latter do not. If so, we can further hypothesize that it is the presence of the negative element in NCIs that forces them to co-occur with clausemate sentential negation.

This hypothesis crucially depends on the assumption that the *wh*-part in NCIs is a kind of indefinite meaning **one**. This assumption does not sound so bizarre but needs to be elaborated. In order to avoid a loophole in the line of reasoning, we need evidence for this assumption. What counts as evidence? We can confirm the assumption if there is an expression that expresses a predicate **one**, a focus element and a negative import and must occur in the presence of clausemate sentential negation in a parallel fashion to *wh*-based NCIs in Slavic.

Minimizers in Russian and Spanish provide a good illustration for this assumption. First consider the data drawn from Russian.

- (18) a. On **ne** proli-l **ni** slez-in-k-i.
 he Neg drop-PAST NI tear-Singulative-Deminutive-Gen
 'He did not shed even (the tiniest unit of) tear'
- b. Ni **odin** chelovek **ne** prishe-l.
 NI one person Neg come-PAST
 'Not a single person came.'

Minimizers in this language comprise *ni* 'not even' and a numeral part that shows up in the form of either singulative inflection, as in (18a), or cardinal number, as in (18b), and they have to co-occur with clausemate sentential negation, as predicted by (and therefore validating) the assumption in question.

Minimizers in Spanish also illustrate the same point.

- (18) a. No dijo (**ni**) una palabra.
 Neg said-3sg NI a word
 'She/He didn't say a word.'
- b. Le tocaste (***ni**) un pelo?
 Dat-3sg touched-2sg NI a hair
 'Did you touch her/him at all?'
- c. Si le toca (***ni**) un pelo, avísame.
 if Dat-3sg touch-3sg NI a hair warn-2sg-Imp.me
 'If she/he touches him/her at all, let me know.' (Vallduví 1994)

In Spanish minimizers may occur with a particle *ni*, which Haspelmath (1997) analyzes as a stemming from *no+i* ‘not even’. Important to the present discussion is the fact that *ni*-minimizer cannot occur in the absence of clausemate sentential negation, as shown by the examples in (19b,c). Since minimizers in Spanish clearly contain a numeral **one** in the form of an indefinite article, *ni*-minimizers can be seen as essentially the same thing as NPIs in Hindi plus a negative morpheme.

The fact that the syntactic distribution of minimizers in Russian and Spanish is parallel to that of NCIs buttresses the assumption that the latter contain the same ingredients, namely, a focus marker, a negative element and a numeral **one** expressed by a *wh*-part. For more discussion on indefinites, *wh*-phrases and their relations, see Shimoyama (2006) and Nishigauchi (1990) and the references cited therein.

We are now ready to explain the contrast in (1), repeated in (21).

- (21) a. ***Nikto** zvonil.
 anyone called
 ‘(Lit.)Anyone called.’
 b. **Nikto ne** zvonil.
 anyone Neg called
 ‘Nobody called.’

Since *nikto* by assumption contains a negative element and a cardinality predicate **one**, the proposition asserted by (21a) should be represented as in (22).

(22) $\sim\exists x[\mathbf{one}(x) \wedge x \text{ called}]$

This would be a Logical Form for an English sentence ‘Nobody called,’ but in the case of (21a) this is not the end of the story because *nikto* contains a focus marker. The focus-alternatives must be taken into consideration. What will they be like? Assuming that focus is associated with both the negative morpheme and a predicate **one** and that the alternatives to negation affirmation,¹ I suggest that the set of the

¹ Given that negation is a propositional operator, its alternative set will comprise other propositional operators, which are most likely to contain an affirmation operator. Modals are also good candidates for the members of the alternative set, but the inclusion of an affirmation operator suffices for the present discussion.

focus-induced alternatives to (22) will be (23).

$$(23) C = \{ \exists x[\text{one}(x) \wedge x \text{ called}], \exists x[\text{two}(x) \wedge x \text{ called}], \exists x[\text{three}(x) \wedge x \text{ called}] \dots \sim \exists x[\text{one}(x) \wedge x \text{ called}], \sim \exists x[\text{two}(x) \wedge x \text{ called}], \sim \exists x[\text{three}(x) \wedge x \text{ called}] \dots \}$$

In this set, the focus-alternatives consist of not only affirmative propositions but also negative propositions. Inclusion of the negative propositions should be allowed because nothing in principle prevents a focus-associated element from being replaced by itself. In the present case, the focus-associated negative operator is replaced by a negative operator. This yields the subset that consists of the alternatives where **one** is replaced by other cardinality predicates while negation is apparently kept intact as it is replaced by itself.

Since the set of focus-alternatives in (23) is messed up with the affirmative and negative propositions, it will not produce any implicatures in good shape. The existential implicature would go through only when the asserted proposition is compared with the subset of (23), namely, the negative alternatives, whereas the scalar implicature would never hold as it is a universal statement. The incoherence of the implicatures renders the structure unacceptable.²

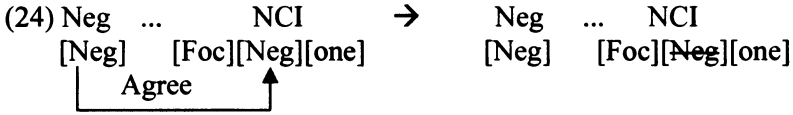
Then, how does clausemate sentential negation save the structure? As we just saw, the ungrammaticality of (21a) is due to the presence of a negative element associated with focus within the NCI. Thus, the structure can be rescued by deleting this focus-associated negative element from the NCI. How is the deletion carried out? I would like to propose that Agree takes place between the Neg-feature of an NCI and clausemate sentential negation so that the former gets deleted, as illustrated in (24).

² One of the reviewers raises a question why (i) is grammatical in English though it seems identical to (21a) in relevant respects.

(i) Not even one (person) called.

I would like to suggest that (i) is grammatical because negation is outside the scope of focus and thus is not associated with it. (21a) is comparable to (ii), where negation shows up inside the scope of *even*.

(ii) *Even not one (person) came.



Since the deletion of Neg-feature is mediated by via Agree, only sentential negation can be a licenser for NCIs by the definition of Agree (Chomsky 2000: 5). Other decreasing operators do not help since they do not bear a Neg-feature. The clausemate condition follows from the locality condition on Agree (e.g., Phase Impenetrability Condition of Chomsky 2000).

Once the Neg-feature is deleted from an NCI, the resulting object becomes equivalent to an NPI in Hindi, being made up from a focus marker and a cardinality predicate **one**. Thus, the proposition asserted by (21b) will be (25), where the negative operator is provided by sentential negation, not by the Neg-feature of the NCI, which has been deleted.

(25) $\sim\exists x[\mathbf{one}(x) \wedge x \text{ called}]$

Since Agree does not affect the interpretation of the focus-associated cardinality predicate **one**, the two implicatures in (26) obtain.

- (26) a. For some cardinality predicate other than **one**, say Z , $\sim\exists x[Z(x) \wedge x \text{ called}]$
- b. For every cardinality predicate other than **one**, say, U , if $\sim\exists x[U(x) \wedge x \text{ called}]$, then $\text{likelihood}(\wedge\sim\exists x[U(x) \wedge x \text{ called}]) > \text{likelihood}(\wedge\sim\exists x[\mathbf{one}(x) \wedge x \text{ called}])$

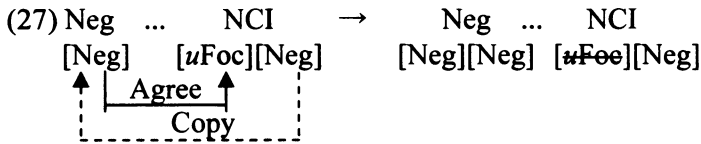
These implicatures are not contradictory, just like (14a, b) are not. The grammaticality of (21b) is thus explained.

3 Alternatives

In the previous section, we reached the conclusion that it is due to the presence of a negative element contained in NCIs that forces them to occur in the presence of clausemate sentential negation. At first, this conclusion may seem to be effectively the same as the one drawn by Brown (1999). However, there is an important difference. She simply

stipulates that the Neg-feature on NCIs is uninterpretable and needs to be checked off by clausemate sentential negation. This is no more than the restatement of the distribution of NCIs in terms of feature (un)interpretability. By contrast, the present analysis derives the necessity of clausemate negation from the independently motivated semantics of focus in tandem with the morphological decomposition of NCIs.

Another alternative that is worth considering is Watanabe’s (2004), according to which NCIs in Slavic (as well as their counterparts in Japanese) bear an interpretable Neg-feature and an uninterpretable focus feature and the latter needs to be checked off by a clausemate sentential negation while the former is copied onto the sentential negation, thereby canceling the negative meaning of the sentential negation and rendering the NCI the sole locus of negation, as illustrated in (27).



Putting aside for now the question on the (un)interpretability of a focus feature, deleting a focus feature by clausemate sentential negation could be another way of saving the structure such as (21a), reproduced below.

- (28) a. ***Nikto** zvonil.
 anyone called
 ‘(Lit.)Anyone called.’
- b. **Nikto ne** zvonil.
 anyone Neg called
 ‘Nobody called.’

Recall that the proposition asserted by (28a), shown in (29), is an impeccable logical form and that what makes the structure unacceptable is the presence of the focus-associated negative morpheme, which yields infelicitous implicatures.

(29) $\sim \exists x[\text{one}(x) \wedge x \text{ called}]$

It should be noticed that the structure in (28a) could be redeemed by

deleting the focus feature, instead of the Neg-feature, thereby preempting the creation of the focus-alternatives to negation. Under this alternative, even if the focus feature is interpretable (contra Watanabe), the necessity of sentential negation could be accounted for by assuming that the focus feature can only be deleted via Agree with sentential negation.

This revised version of Watanabe's analysis could potentially be a vital alternative to the present proposal. However, there remains an unresolved question with either Watanabe's original or the revised version. That is, it is not clear why only clausemate sentential negation can delete an (un)interpretable focus feature. Under the present approach, the necessity of clausemate sentential negation straightforwardly follows from the definition of Agree, which takes place only between non-distinct features (Chomsky 2000: 5). Admittedly, this is merely a theory-internal argument. It is thus desirable to provide empirical evidence for the present approach.

Note that the two proposals differ with respect to where negation is expressed at LF. It is on the sentential negation under the present proposal whereas it is on the NCI under Watanabe's. There is a case where the two proposals make a different prediction. In order to set up a basis on which to examine the crucial case, let us start with Watanabe's analysis of elliptical answers with an NCI.

Watanabe (2004) defends his analysis by demonstrating that it can account for how a question like (30a) can be answered by a fragment like (30b), without violating the well known identity condition on ellipsis, an issue arising from the fact that the antecedent lacks sentential negation whereas the elided part is supposed to contain it. (The data is drawn from Japanese, but the same is true of Slavic.)

- (30) a. Nani-o tabe-ta-no?
 what-Acc eat-Past-Q
 'What did you eat?'
 b. Nani-mo ~~tabe-nakat-ta~~
 what-Foc eat-Neg-Past
 'Nothing.'

This issue does not arise under Watanabe's analysis because after the Neg-feature is copied onto clausemate sentential negation, it is logically equivalent to affirmative, with its negative meaning canceled out, so that the identity condition is satisfied.

In spite of its elegance, this analysis is falsified when it is tested with

the interpretation of the elided material that takes as its antecedent the structure containing an NCI and sentential negation that licenses it. Consider (31).

- (31) a. John-wa [kyoo-wa dekireba **dare-ni-mo** ai-taku-nai
 John-Top today-Top if.possible who-Dat-MO meet-want-Neg
 to] itte-i-masu
 Comp say-be-Pol
 ‘John says that if possible he does not want to meet anybody today.’
- b. [Tokuni dare-ni [~~ip ai-taku-nai~~ ~~to~~ ~~itte-iru~~] ka]
 especially who-Dat meet-want-Neg Comp say-be Q
 wakari-masu-ka
 know-Pol-Q
 ‘(Lit) Do you know especially who (he says that he does not want to meet)?’

Under Watanabe’s analysis, the negative import of the embedded sentence in (31a) is expressed by the NCI, not by the sentential negation. (31b) involves an ellipsis of IP that is sanctioned under the identity with the preceding sentence. If Watanabe’s analysis were correct, the elided IP would have to be interpreted as an affirmative open sentence because the sentential negation in the IP of (31a) has been voided via Agree with the NCI. More concretely, the interpretation of the antecedent material that would obtain under Watanabe’s analysis would be (32).

(32) λx . John says that he wants to meet x

The identity condition on ellipsis would then require that the elided material be interpreted as an affirmative open sentence. However, this is not the case, as indicated by the translation. The elided part is interpreted as a negative open sentence. This shows that the locus of negation is located within the IP, more specifically, on the sentential negation, as is predicted by the present analysis. The failure to capture the correct interpretation of cases like (31b) is fatal enough to abandon Watanabe’s analysis.

Then how should we treat an elliptical answer with an NCI? I submit that Giannakidou's (2006) analysis is on the right track. She suggests, following Hamblin's (1973) semantics of questions according to which questions denote the set of their true answers, that an elliptical answer with an NCI can be derived from its non-elided counterpart, which is surely a member of the answer set. Thus, question (30a) denotes the set of answers given in (33) under the postulated domain of quantification.

- (33) Domain of quantification: {pizza, sushi}
- | | | | | | | |
|---|----------------|----------|----------------|----------|---------------------------|------------------------|
| { | Pizza-o | tabe-ta, | Sushi-o | tabe-ta, | Nani-mo | tabe- nak -atta |
| | Pizza-Acc | eat-Past | Sushi-Acc | eat-Past | what-Foc | eat-Neg-Past |
| | 'I ate pizza.' | | 'I ate sushi.' | | 'I did not eat anything.' | |

The answer set contains a negative proposition 'I didn't eat anything'. (30b) is derived from this answer by moving the NCI to the left periphery of the sentence followed by deletion, as illustrated in (34). (*pro* is a null subject expressing a first person singular pronoun).

- (34) **Nani-mo** *pro* ~~_____~~ ~~tabe~~ ~~nak~~ ~~atta~~
 what-Foc | eat-Neg-Past
 ←

To the extent that Giannakidou's proposal is tenable, it is unnecessary to suppose that the negative import of sentential negation must be canceled to explain the availability of elliptical answer with an NCI.³

4 Implication

One of the implications that the proposed analysis has is that it is possible to delete a Neg-feature even though it is semantically interpretable. This is contrary to the standard view that only uninterpretable/unvalued features

³ One might think that Giannakidou's analysis would mistakenly allow NPIs to occur in fragments.

(i) a. Who did John meet?
 b. *Anybody.

(i-b) can be ruled out for an independent reason. That is, in order for an NPI to become a fragment, it must move out of the to-be-elided constituent so that it will end up outside the c-command domain of sentential negation, in violation of the licensing condition on NPIs.

can be deleted/valued. In order for the present proposal to find a natural place in the current Minimalist theory of syntax, this deviation has to be properly handled.

Two points that might normalize the deviation have occurred to my mind. First, Pesetsky and Torrego (2001) and their subsequent works argue that all the features are inherently interpretable but they become uninterpretable when they are misplaced in a position where they cannot be suitably interpreted, their case being that the allegedly uninterpretable Case feature is an instance of interpretable tense feature misplaced on D, which is not the canonical position for the interpretation of tense. If this conception of feature (un)interpretability is correct, then we can regard the Neg-feature associated with focus within an NCI as an instance of an inherently interpretable feature that happens to be uninterpretable due to its position and hence needs to be deleted. Under this view, the deletion of an interpretable Neg-feature ceases to be a problem.

Second, the deletion of Neg-feature seems to be necessary to treat NCIs in Romance languages such as Spanish and Italian. Take a look at the Spanish cases given (35).

- (35) a. **Nadie** vino.
 nobody came
 'Nobody came.'
- b. **No** vino **nadie**.
 Neg came nothing
 'Nobody came.'

(35a) shows that the NCI in Spanish bears the negative import of its own. However, as (35b) demonstrates, the same item occurs in postverbal position together with sentential negation without inducing double negation. This phenomenon is called Negative Concord, and a number of proposals have been made to handle it. One of the major analyses utilizes an operation called Negative Absorption, by which multiple occurrences of negation are rendered into one (See Haegeman and Zanuttini 1996). Due to its non-compositionality and stipulative nature, it has often been criticized (Giannakidou (2000)). However, the Absorption approach makes more sense in light of the present proposal that motivates the deletion of Neg-feature. For reasons of space, I will leave the exact implementation open, but it seems that deletion of Neg-feature is needed anyway in the analysis of NCIs, both in Slavic and Romance.

5 Conclusion

This paper has shown that the distribution of NCIs in Slavic can be derived by morphological decomposition of their structure and semantic consideration of each component. In doing so, it was demonstrated that the difference between NCIs and NPIs is reducible to the presence of a negative element in the former, which forces them to occur in the presence of clausemate sentential negation. This attempt was made feasible only through a cross-linguistic analysis of NCIs and NPIs.

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Polish Nickname Formation: The Case of Allomorph Selection *

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1 Introduction

Allomorphy in Optimality Theory has been well-studied (Drachman et al. 1996, Kager 1996, McCarthy and Prince 1993, Mascaró 1996, Urbanczyk 1999, Yip 2004, among others). OT provides for an output-oriented analysis in which allomorphs are selected by the properties of the output.

We present an analysis of the formation of Polish nicknames and argue that Polish nickname formation can be understood as allomorph selection (cf. Downing 2005, Ito and Mester 1997, Nelson 1998, among others). We ask two main questions: First, how are nicknames formed in Polish? And second, why are these formations allowed by the language while others are not?

Two categories of nicknames will be examined: the first category is formed by [uś] and [ś] suffixes (see (1)), and the second category is formed by the diminutive suffixes [ek] and [k] (see (2)).

(1) [uś]/[ś] allomorphy

a. [uś]

<i>Base</i>	<i>Nickname</i>
Piotr	Piotr+uś
Tom(asz)	Tom+uś
Jac(ek)	Jac+uś
Rad(osław)	Rad+uś
Mir(osław)	Mir+uś

* This project was supported by the USC Undergraduate Research Grant. We would like to thank the participants of *FASL* 15 for comments.

b. [ś]

<i>Base</i>	<i>Nickname</i>
Adam	Ada+ś
Michał	Micha+ś
Zygmund	Zygmu+ś
Patryk	Patry+ś
Ludwik	Ludwi+ś

(2) [ek]/[k] allomorphy

a. [ek]

<i>Base</i>	<i>Nickname</i>
Karol	Karol+ek
Marcin	Marcin+ek
Andrzej	Andrzej+ek
Michał	Michał+ek
Piotr	Piotr+ek

b. [k]

<i>Base</i>	<i>Nickname</i>
Agat+a	Agat+k+a
Dorot+a	Dorot+k+a
Kamil+a	Kamil+k+a
Marzen+a	Marzen+k+a
Ew+a	Ew+k+a

We propose that Polish nickname formations can be understood as allomorph selection using OT analysis. In the case of [uś]/[ś] allomorphs, the allomorph is selected by the number of syllables, with the goal of obtaining a disyllabic output. In the case of [ek]/[k] allomorphs, the allomorph is selected by the syllable structure, with the goal of avoiding complex codas in the output form.

This proposal has implications for our understanding of nickname formation. It gives a uniform account of Polish nicknames in terms of the prosodic well-formedness of the output, such as the number of syllables and syllable structure.

This paper is organized as follows. Section 2 gives the proposal using the example of [uś]/[ś] allomorphy. Section 3 extends the proposal to diminutive allomorphy [ek]/[k]. Section 4 examines The Emergence of

The Unmarked Effects (TETU) in nickname formation. Finally, Section 5 is the conclusion.

2 Proposal

2.1 Research Program

There is a research program in Optimality Theory (Prince and Smolensky 1993) which accounts for allomorphy in terms of the well-formedness of the output. Allomorph distribution has been shown to be determined by phonological factors, such as *stress* (Anttila 1997, Drachman et. al 1995, Kager 1996, Mester 1994), *syllable structure* (Bonet 2004, Hargus and Tuttle 1997, Mascaró 1996, McCarthy and Prince 1993, Prince and Smolensky 1993, Rubach and Booij 2001, Tranel 1996, 1998), and *phonotactics* (Anttila 2002, Bermúdez-Otero forthcoming, Klein 2002, Oostendorp 1998, Yip 2004).

In this research program, allomorphs are present in the input, and constraints on output well-formedness called markedness constraints determine how allomorphs are distributed in the output form. We will follow this research program in our analysis of Polish nicknames.

2.2 [uś]/[ś] Allomorphy

We begin with the analysis of [uś]/[ś] allomorphy. The examples are repeated in (3). In (3a) we give examples of nicknames that take the [uś] suffix and in (3b) we give examples of nicknames that take the [ś] suffix.

(3) [uś]/[ś] allomorphy (cf. (1))

a. [uś]

<i>Base</i>	<i>Nickname</i>
Piotr	Piotr+uś
Tom(asz)	Tom+uś
Jac(ek)	Jac+uś
Rad(osław)	Rad+uś
Mir(osław)	Mir+uś
Bron(isław)	Bron+uś
Hub(ert)	Hub+uś
Rob(ert)	Rob+uś
Dar(iusz)	Dar+uś
Klaud(iusz)	Klaud+uś

b. [ś]	
<i>Base</i>	<i>Nickname</i>
Adam	Ada+ś
Michał	Micha+ś
Zygmund	Zygm+ś
Patryk	Patry+ś
Ignacy	Igna+ś
Cyryl	Cyry+ś
Ludwik	Ludwi+ś
Borys	Bory+ś
Antoni	Anto+ś
Gabryjel	Gabry+ś

The question is what determines the selection of [uś] over [ś].¹

The key proposal is that in the case of [uś]/[ś], the allomorph is selected by the number of syllables. The goal is to obtain a disyllabic output, or a binary foot (Bat-El 2005, Piñeros 2000). Thus, if the base is one syllable long, the nickname will select the allomorph [uś] in order to create a disyllabic output. This is shown schematically in (4).

(4) The nickname *needs to be minimally disyllabic*

<i>Base</i>	<i>Nickname</i>
Piotr	Pio.tr+uś *Pio+ś

The disyllabic nickname (Pio.tr+uś) is chosen over the monosyllabic alternative (*Pio+ś).

To account for this observation, we propose that the default allomorph is [ś] (*[uś] >> *[ś]). However, there are instances where choosing [ś] will not lead to a disyllabic nickname. In this case, [uś] is chosen. The allomorph [uś] satisfies the prosodic requirement of a disyllabic foot, called FOOTBIN-MIN (Hewitt 1994).

(5) FOOTBIN-MIN

The foot needs to be minimally disyllabic (no fewer than two syllables).

¹ The base in (3a) is not a free-standing word. The morphemes in brackets are not part of the base. For the definition of a base, see Benua (1997).

In terms of constraints, the markedness constraint FOOTBIN-MIN compels the selection of the marked allomorph [uś] (FOOTBIN-MIN >> *[uś]). The constraint ranking is given in (6).

- (6) The constraint ranking²
 FOOTBIN-MIN >> *[uś] >> *[ś]

In effect, the optimal allomorph is [ś] (see (7)) but FOOTBIN-MIN compels the selection of [uś] (see (8)).

Tableau (7) shows a case where the unmarked allomorph [ś] is chosen.

- (7) The optimal allomorph is [ś]

/Adam+{ś, uś}/	FOOTBIN-MIN	*[uś]	*[ś]
a. Λ A.da+ś			*
b. Λ A.da.m+uś		*!	

Candidate (a) wins because it chooses the unmarked allomorph.

Tableau (8) shows a case where the size restriction compels the selection of the marked allomorph [uś].

- (8) Size restriction compels selection of [uś]

/Piotr+{ś, uś}/	FOOTBIN-MIN	*[uś]	*[ś]
a. Pio+ś	*!		*
b. Λ Pio.tr+uś		*	

Candidate (b) wins because it satisfies FOOTBIN-MIN.³

In summary, this section has proposed that the selection of [uś] over [ś] is based on the prosodic well-formedness of the output. The relevant constraint on prosodic well-formedness is FOOTBIN-MIN. This constraint compels the marked allomorph [uś] in case the base is monosyllabic.

² Perhaps universally, phonologically shorter morphemes are less marked, see Kager (1996).

³ Candidates (7a) and (8a) show deletion because *mś* and *trś* are not permissible codas.

3 Diminutive Allomorphy

This section extends the proposal to diminutive allomorphy [ek]/[k]. As will be shown, diminutive allomorphy gives further support for the analysis of Polish nicknames in terms of the prosodic well-formedness of the output. We first describe the data in 3.1 followed by the analysis in 3.2.

3.1 *The Data*

Diminutives often form Polish nicknames, as shown below. The examples in (9a) with the [ek] diminutive are from masculine names and the examples in (9b) with the [k] diminutive are from feminine names. Both sets of examples are given in nominative singular.

(9) [ek]/[k] allomorphy (cf. (2))

a. [ek]

<i>Base</i>	<i>Nickname</i>
Karol	Karol+ek
Marcin	Marcin+ek
Andrzej	Andrzej+ek
Michał	Michał+ek
Piotr	Piotr+ek
Kamil	Kamil+ek
Cezar	Cazar+ek
Kacper	Kacper+ek
Mateusz	Mateusz+ek
Dar(iusz)	Dar+ek

b. [k]

<i>Base</i>	<i>Nickname</i>
Agat+a	Agat+k+a
Dorot+a	Dorot+k+a
Kamil+a	Kamil+k+a
Marzen+a	Marzen+k+a
Ew+a	Ew+k+a
Beat+a	Beat+k+a
Anet+a	Anet+k+a
Małgorzat+a	Małgorzat+k+a
Magdalen+a	Magdalen+k+a
Krystyn+a	Krystyn+k+a

The morphemes [ek] and [k] can appear in both feminine and masculine names depending on case and plurality (Bethin 1992, Rubach 1984). In Polish, [a] is the feminine morpheme. The question is what determines the selection of [ek] over [k].⁴

In rule-based phonology (Rubach 1984), the distribution of [ek] vs. [k] was accounted for by postulating underlying yer vowels and determining their surface distribution by rule ordering. In the rule-based account, underlying yers would undergo yer lowering resulting in a mid front vowel (as in [ek]) or yer deletion (as in [k]). The two rules were ordered with respect to one another such that yer lowering precedes yer deletion. Informally, yer lowering lowers a yer to a mid vowel [e] when followed by another yer vowel in a word. All other yers are later deleted. This is represented schematically below.

(10) Rule-based account

/Karol+ɨk+ɨ/	/Agat+ɨk+a/	
Karol+ek+ɨ	n/a	Yer lowering
Karol+ek	Agat+k+a	Yer deletion

The masculine name *Karolek* surfaces with [ek] as a result of yer lowering. No yer lowering takes place in the feminine form *Agatka*.

This paper provides an alternative explanation for the [ek]/[k] alternation to the rule-based account using OT. The next section outlines the proposal.

3.2 The Role of Prosodic Well-Formedness

The key proposal is that in the case of [ek]/[k] allomorphs, the allomorph is selected by the syllable structure. The goal is to avoid complex codas in the output form. Thus, if the name ends in a consonant the nickname will select the diminutive suffix [ek] in order to avoid complex codas. This is shown schematically in (11).

⁴ There is also a diminutive allomorph [ik]. It occurs in prosodically identical contexts to [ek]. Some examples with [ik] include: *Alber[t]* ~ *Alber[ć]+ik*, *Klemen[s]* ~ *Klemen[ś]+ik*, *Rajmun[t]* ~ *Rajmun[dź]+ik*.

(11) The nickname *avoids complex codas*

<i>Base</i>	<i>Nickname</i>
Mar.cin	Mar.ci.n+ek *Mar.cin+k

The nickname with a complex coda (*Mar.cin+k) is ruled out.

To account for this observation, we propose that the default allomorph is [k] (*[ek] >> *[k]). However, choosing [k] for certain names will lead to complex codas. In that case, the nickname chooses [ek] in order to satisfy the no complex coda requirement (*COMPLEXCODA >> *[ek]). The constraint ranking is given in (12).

(12) The constraint ranking

*COMPLEXCODA >> *[ek] >> *[k]

In effect, the optimal allomorph is [k] but the syllable structure constraint compels the selection of [ek].

The relevant tableaux are given below. Tableau (13) gives an analysis of a feminine name in nominative singular.

(13) The optimal diminutive allomorph is [k]

/Agat+{ek, k}+a/	*COMPLEXCODA	*[ek]	*[k]
a. Λ A.gat.+k+a			*
b. A.ga.t+e.k+a		*!	

Candidate (a) wins because it chooses the unmarked allomorph.

Tableau (14) gives an example of a masculine name in nominative singular.

(14) No complex coda compels selection of [ek]

/Filip+{ek, k}/	*COMPLEXCODA	*[ek]	*[k]
a. Λ Fi.li.p+ek		*	
b. Fi.lip+k	*!		*

In this case, candidate (a) wins because it satisfies *COMPLEX CODA.

In summary, the account of the [ek]/[k] alternation in terms of syllable structure follows from independently motivated requirements on output well-formedness rather than language specific rules on yer lowering or yer deletion as in the rule-based account.

3.3 Further Support

So far we have seen examples of nicknames in nominative singular but the analysis holds for other cases as well. For example, in genitive singular forms of masculine nouns, given in (15), the base selects [-k] since there is a vowel ending present in the genitive singular of masculine nouns in Polish. The same base in the nominative singular selects [-ek], as was illustrated in (14).

(15) Genitive singular case of masculine nouns (cf. (9))

<i>Base</i>	<i>Nickname (nom.sg.)</i>	<i>Nickname (gen.sg.)</i>
Filip	Filip+ek	Filip+k+a
Marcin	Marcin+ek	Marcin+k+a
Andrzej	Andrzej+ek	Andrzej+k+a
Piotr	Piotr+ek	Piotr+k+a
Michał	Michał+ek	Michał+k+a

This is shown in the following tableau.

(16) No complex coda is satisfied

/Filip+{ek, k}+a/	*COMPLEXCODA	*[ek]	*[k]
a. Λ Fi.li.p.+k+a			*
b. Fi.li.p+e.k+a		*!	

In the genitive singular, *COMPLEXCODA is satisfied, thus the choice between allomorphs falls to the relative allomorph markedness. Candidate (a) wins because it chooses the unmarked allomorph (cf. (14)).

Similarly, in the genitive plural of feminine nouns given in (17), the base selects [-ek] since there is no vowel ending present in genitive plural forms of feminine nouns in Polish. The same base in the nominative singular selects [-k], as was illustrated in (13).

(17) Genitive plural case of feminine nouns (cf. (9))

<i>Base</i>	<i>Nickname (nom.sg.)</i>	<i>Nickname (gen.pl.)</i>
Agat+a	Agat+k+a	Agat+ek
Dorot+a	Dorot+k+a	Dorot+ek
Kamil+a	Kamil+k+a	Kamil+ek
Marzen+a	Marzen+k+a	Marzen+ek
Beat+a	Beat+k+a	Beat+ek

The relevant tableau is below.

(18) No complex coda is decisive

/Agat+{ek, k}/	*COMPLEXCODA	*[ek]	*[k]
a. Λ A.ga.t+ek		*	
b. A.gat+k	*!		*

Candidate (a) wins because it avoids complex codas (cf. (13)).

3.4 Interim Summary

In both cases of allomorphy (Sections 2 and 3), prosodic well-formedness determines which allomorph is selected in the output. In the case of [uś]/[ś], allomorphs are selected based on the syllable count (Section 2). In the case of [ek]/[k], allomorphs are selected based on the syllable structure of the output (Section 3). In both cases, allomorph selection follows from independently motivated universal constraints on syllable structure and syllable count.

4 The Emergence of the Unmarked Effects (TETU) in Nicknames

In the discussion so far, we have seen that nicknames show TETU effects, also known as The Emergence of The Unmarked (McCarthy and Prince 1994, 1995). Nicknames are more unmarked than their bases. Nicknames strive to be minimally disyllabic while their bases do not (Section 2). Nicknames avoid complex codas but complex codas are abundant in Polish (Section 3).

There are many words in Polish with complex codas. Some examples are given below.⁵

(19) Examples of complex codas

strajk 'strike'
 akt 'act'
 tynk 'plaster'
 park 'park'
 bark 'shoulder'
 sztuka 'craft'

⁵ Not all complex codas are allowed in Polish. See Bethin (1992).

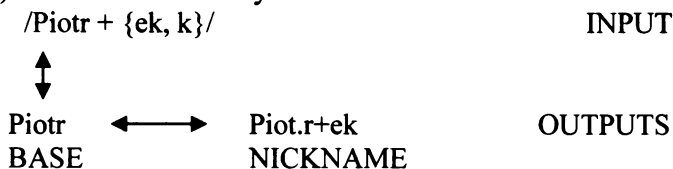
However, as we have seen in Section 3, complex codas are not allowed in nicknames. Some examples are recalled below.

(20) No complex codas in nicknames

<i>Base</i>	<i>Nickname</i>
Karol	Ka.ro.l+ek
Marcin	Mar.ci.n+ek
Andrzej	And.rze.j+ek
Michał	Mi.cha.ł+ek
Piotr	Piot.r+ek

In the framework of rankable and violable constraints, this observation can be expressed with different faithfulness, or identity, relations for bases and nicknames (Benua 1997, Ito and Mester 1997, McCarthy and Prince 1995), known as TETU. The faithfulness relations involved in TETU are represented in (21) and the TETU ranking is given in (22).

(21) TETU schematically



(22) TETU ranking

FAITH I-O >> *COMPLEXCODA >> FAITH O-O

The key idea is that faithfulness on the input-output dimension, FAITH I-O, is only activated for bases but not for nicknames. Nicknames are subject to faithfulness on the output-output dimension, FAITH O-O, and their input consists of the output base and a set of allomorphs. This is shown in tableaux (23) and (24) with the example of [ek]/[k] allomorphy.

Tableau (23) shows that bases are more marked than nicknames. This is because bases need to conform to input-output faithfulness.

(23) Bases are more marked than nicknames

/Piotr/	FAITH I-O	*COMPLEXCODA	FAITH O-O
a. Λ Piotr		*	
b. Pio.ter	*!		
c. Pior	*!		

Candidate (a) wins since it is faithful to its input. Candidates (b) and (c), the candidates with epenthesis and deletion, are ruled out.

Tableau (24) shows that markedness emerges in nicknames since nickname formation is governed by the faithfulness on the output-output dimension, and not by input-output faithfulness.

(24) Markedness emerges in nicknames

/Piotr+{ek, k}/	FAITH I-O	*COMPLEXCODA	FAITH O-O
a. Λ Piot.r+ek			
b. Pior+k		*!	*

Candidate (b) loses since it violates markedness. Candidate (a), the candidate that avoids complex codas, wins.⁶

5 Conclusion

To conclude, the analysis of nickname formation using allomorphy in Optimality Theory provides a uniform account of the phonology and morphology of Polish nicknames.

We have analyzed two types of allomorphy in Polish nicknames (Sections 2 and 3) and concluded that they can both be uniformly explained by the prosodic well-formedness of the output. Unlike previous approaches (Gussman 1980, Rubach 1984), this analysis significantly reduces the abstractness of the input. The allomorphs are present in the input and are distributed in the output to satisfy markedness. It has been shown that the pattern of allomorphy in Polish nicknames can be accounted for by universal, rankable and violable constraints.

Finally, we have provided an explanation for the emergence of the unmarked or TETU effects (McCarthy and Prince 1995) in nickname formation (Section 4) in terms of distinct faithfulness relations for nicknames and their bases.

⁶ A candidate with a *trk* coda is ruled out in Polish.

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Last-Conjunct Agreement in Slovenian

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In this paper we present a discussion of Slovenian conjunct agreement phenomena, arguing that in one of the two strategies for determining agreement, agreement is simply linear; that is, verbal forms agree with the closest nominal of the conjunct.¹ This paper is one of the first overviews of these phenomena in Slovenian and thus we view our contribution as largely empirical, supporting our claim with a corpus study.² We show that existing analyses cannot explain the Slovenian facts, in particular the cases of preverbal, last-conjunct agreement. For comparison, we will show some accounts of linear agreement elsewhere in natural language. We present an analysis which highlights a crucial role for the possibility of separate gender and number probes.

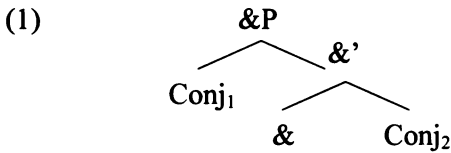
1 First-Conjunct Agreement in Postverbal Contexts

A great deal of evidence points to the conclusion that structure of conjunction is internally hierarchical; an example of this is the fact that the first conjunct may contain a quantifier that binds a variable in the second conjunct, a configuration which is arguably only possible under c-

¹ This phenomenon is sometimes called “partial agreement” or “proximity agreement” in the conjunct agreement typology literature.

² For a recent comprehensive overview of agreement resolution in mixed-gender conjunctions, see Wechsler & Zlatić (2003).

command.³ On the other hand, syntactic phenomena external to the conjunction deal with the constituent of the conjunction as a whole. For example, theta role assignment to a subject conjunction assigns an agent theta role to the conjunction as a whole (rather than assigning two separate theta roles, or assigning a theta role only to one element of the conjunct). This behavior of conjunctions as internally hierarchical but as a single constituent has led to the following generally accepted structure for coordination:



In light of this structure, it is surprising that one phenomenon, namely agreement, seems to disregard the hierarchical internal structure of conjunctions. Many languages allow first conjunct agreement (First-CA) in postverbal contexts: English, Arabic (Aoun, Benmamoun & Sportiche [henceforth: ABS] 1994, 1999, Soltan 2006), Brazilian Portuguese (Munn 1993), Russian (Babyonyshev 1996), Polish (Citko 1999), Greek (Tantalou & Badecker 2005), Welsh (Sadler 2004), and, most relevant to our current discussion, Slovenian (2). Note that Slovenian has three genders (feminine, masculine, neuter), and masculine is the default gender, and hence we consider examples composed of feminine and neuter conjuncts.

- (2) Najbolje so se prodajale radirke in peresa.
 the best aux refl sold_{F,PL} erasers_F and pens_N
 'The majority of the sold items were erasers and pens.'

According to the cited literature, none of these languages allow last conjunct agreement⁴ (Last-CA) in preverbal contexts. The focus of the

³ We note that Progovac (1997, 1998) offers an alternative interpretation of some of the arguments for asymmetric c-command in conjunctions.

⁴ *Last-CA* is more accurate than *Second-CA*, since in case of three conjuncts, it is the third conjunct, not the second, that determines agreement, as shown in (i).

current paper is an empirical overview of the phenomenon of Last-CA in Slovenian, as shown in (3), and its theoretical consequences.

- (3) Radirke in peresa so se prodajala najbolj.
 erasers_F and pens_N aux refl sold_{N-PL} the best
 ‘The majority of the sold items were erasers and pens.’

Before we can proceed with a discussion of Slovenian preverbal Last-CA, however, we must address the fact that many languages allow First-CA configurations such as (2) without ever allowing Last-CA as in (3). We attribute this to the hypothesis in (4)

- (4) *Independence of First-CA and Last-CA*: First-CA and Last-CA are due to wholly independent mechanisms.

We adopt the viewpoint that the crosslinguistic asymmetry is thus due to the fact that the mechanism for First-CA is readily available in many languages but that the mechanism for Last-CA is much rarer (though attested in addition to Slovenian also in Ndebele, cf. Section 4).

Indeed, the asymmetric distribution of First-CA as more widespread than Last-CA holds even within Slovenian; as discussed in Section 2, corpus counts reveal that instances of First-CA significantly outnumber instances of Last-CA.

As we adopt (4), our goal in this paper will be to focus on the phenomenon of Last-CA and its theoretical consequences. We will not arbitrate between the many models of First-CA that are possible; a partial overview is given in (5).

(5) Possible Mechanisms of Postverbal First-CA

- a. Equidistance from above of ConjP and the first conjunct (Citko 1999).
- b. A top-down, incremental derivation (Phillips 1996, Guimarães 2004) with opaque counterbleeding⁵: T and the first conjunct are

-
- (i) Ovce, koze in teleta so skakala naokoli.
 sheep_F goats_F and calves_N aux_{PL} jumped_{N-PL} around
 ‘Sheep, goats, and calves were jumping around.’

⁵ This explanation was suggested by Maximiliano Guimarães (p.c. May 2006).

sisters and establish “First”-CA at stage n of the derivation; subsequently, ConjP and the second conjunct are merged, breaking constituency and leading to the sisterhood in (1).

- c. Postsyntactic, cyclic bottom-up spellout (Bobaljik 2001) and conjunct-flattening under linearization⁶: A postverbal conjunct will be linearized, flattened, and spelled-out earlier than the agreeing verb, which will then only have access to the linear edge of the conjunct.

Any of the options in (5a-c) could be adopted in accounting for postverbal First-CA in Slovenian. Ultimately, the right mechanism in (5) should, when adopted in tandem with the right proposal for Last-CA, yield a plausible account of why First-CA is so much more widespread.

The structure of this paper is as follows. In Section 2, we establish the fact that Last-CA is a robust phenomenon in Slovenian, with support from written corpus data. In section 3, we demonstrate that a wide variety of existing analyses (based on ellipsis or on late-merger of one of the conjuncts) make incorrect predictions for the interpretation of Last-CA. In section 4, we support the existence of Last-CA as a bona fide grammatical possibility with a brief look at the same phenomenon in unrelated languages. We conclude with an analysis of Last-CA which makes crucial use of the possibility that number agreement and gender agreement may be established by separate probes on an agreement target.

2 Last-Conjunct Agreement in Slovenian

We focus on gender agreement since, unlike person and number agreement, it is not deterministically computed for conjuncts. As gender agreement only shows up on participles in composed tenses, we will not be looking at present tense sentences, where only person and number agreement show up on the verb. Slovenian composed-tense participles agree with the subjects in gender and number, while the auxiliaries only agree for person and number (*je* = 3P-singular, *sta* = 3P-dual, *so* = 3P-plural). In passive sentences, the past is formed with the participle of the verb ‘be’, which agrees in gender just like other participles (*bil* = masc-

⁶ In our FASL-15 presentation, we proposed (5c) as a mechanism for First-CA.

SG, *bila* = fem-SG, etc.). Participial agreement endings are given in (6).

(6) Participle endings:

	Masculine	Feminine	Neuter
Singular	Ø	-a	-o
Dual	-a	-i	-i
Plural	-i	-e	-a

The interesting fact about gender agreement with coordinated subjects in Slovenian is that it appears to be linear; that is, Slovenian exhibits First-CA with postverbal subjects and Last-CA with preverbal subjects. Standardly, the gender on the participle when the subject is conjoined of two nouns of a different gender should be the default masculine, as in (11) below. But it is also possible to agree the participle with the closest member of the conjunct, as in (7)-(10)⁷. Note that we are talking only about gender agreement here. In order to avoid interference of number and person agreement we will be looking only at conjunctions of plural nominals. The agreement with the closest conjunct is particularly common when a neuter and a feminine plural noun are conjoined. Coordination with a masculine, regardless of the position of the masculine noun, makes it easier for the entire coordination to trigger masculine agreement.

- (7) Včera_j so odšla /*odšle [teleta in krave] na pašo.
 yesterday_{aux} went_{N-PL} went_{F-PL} [calf_{N-PL} and cow_{F-PL}] on graze
 ‘Yesterday calves and cows went grazing.’
- (8) Včera_j so odšle /*odšla [krave in teleta] na pašo.
 yesterday_{aux} went_{F-PL} went_{N-PL} [cow_{F-PL} and calf_{N-PL}] on graze
 ‘Yesterday cows and calves went grazing.’
- (9) [Krave in teleta] so odšla /*odšle na pašo.
 [cow_{F-PL} and calf_{N-PL}] _{aux} went_{N-PL} went_{F-PL} on grazing
 ‘Calves and cows went grazing.’

⁷ Not all speakers of Slovenian share the strong preference for agreement with the closest conjunct with the first and the third author. While some speakers accept only masculine agreement on the participle, the majority of speakers we have consulted allow both options. In future work we hope to conduct experimentally-controlled grammaticality surveys.

- (10) [Teleta in krave] so odšle /*odšla na pašo.
 [calf_{N-PL} and cow_{F-PL}] aux went_{F-PL} went_{N-PL} on grazing
 ‘Calves and cows went grazing.’

Default masculine singular agreement, as in (11), is also possible.

- (11) a. [Teleta in krave] so se prodali včeraj.
 [calf_{N-PL} and cow_{F-PL}] aux refl sold_{M-PL} yesterday
 b. Včeraj so se hoteli [krave in teleta]pasti.
 yesterday aux refl wanted_{M-PL} [cow_{F-PL} and calf_{N-PL}]graze

Two singulars of different gender (typically) trigger masculine dual, as shown in (12).

- (12) [Enabanana in eno jajce] sta padla na tla.
 [one banana_{F-SG} and one egg_{N-SG}] aux_{DU} fell_{M-DU} on ground
 ‘A banana and an egg fell on the ground.’

As stated above, we focus on gender agreement of coordinated plural nouns, since these are the subjects where partial agreement in gender is most clearly and most commonly used. This is also seen from the corpus search we have conducted. We searched through the FidaPLUS corpus of written Slovenian (<http://www.fidaplus.net>, 100 million words) and found the following: in VS orders, agreement with the closest plural N of the coordinated subject is preferred, while in SV orders, masculine agreement is preferred, though Last-CA occurs consistently as well. Results are shown in (13)

(13)	Neut. Participle	Fem. Part.	Masc Part.
[N _{X-PL} & N _{Y-PL}] ... V _{Y-PL}	18	45	407
V _{X-PL} ... [N _{X-PL} & N _{Y-PL}]	91	224	860
[N _{X-PL} & N _{Y-PL}] ... V _{M-PL} (default)			490
V _{M-PL} ... [N _{X-PL} & N _{Y-PL}] (default)			120
Total:	109	270	1877

The results of the corpus search roughly correspond to the crosslinguistic typological observations discussed in Section 1, namely, First-CA is much more common than Last-CA. Thus, Corbett's (1983, 1991) description of the facts, claiming that Slovenian has "furthest conjunct agreement" is incomplete at best.

There are some additional facts to mention. Linear agreement comes always only with the closest noun in coordination. But it does not simply come with the closest noun, as a linearly-rightmost subject embedded inside a relative clause, does not trigger linear agreement, (14)-(15).

(14) Šotori in postelje, ki so jih dali vojaki, so smrdele.
 tent_{M-PL} and bed_{F-PL} that aux them gavesoldiers_M aux stank_{F-PL}
 'Tents and beds that were given by the soldiers stank.'

(15) Trditev, da je Peter odšel, je absurdna.
 claim_{F-SG} that aux Peter_{M-SG} left_{M-SG} is absurd_{F-SG}
 'The claim that Peter left is absurd.'

The restriction of linear agreement to coordinated nouns cannot be tested within PP and NP complements, since only nouns in nominative case trigger agreement and nominative cased nouns cannot be the complements of a noun or to a preposition.

Importantly, intervening material between the &P and the participles does not interfere:

(16) Teleta in krave so (včeraj zjutraj) odšle na pašo
 calves_N and cows_F aux (yesterday morning) went_{F-PL} on grazing
 'Calves and cows went grazing yesterday early morning.'

It is fascinating to note that the linear gender agreement rule seems to be determined for each agreeing element. Sometimes the pre-conjunct verbal element can agree with the first conjunct, and the post-conjunct verbal element of the same clause with the last conjunct, as shown in (17)-(18). It should be noted that these kinds of constructions are typically avoided since none of the possibilities sound perfect. Even though such constructions are avoided and as such very rare, an example was found even in the written corpus, (18).

- (17) Včeraj so **bile** [krave in teleta] **prodana**.
 yesterday aux been_{F-PL} [cow_{F-PL} and calf_{N-PL}] sold_{N-PL}
 ‘Yesterday cows and calves were sold.’
- (18) Upniki iz prvega odstavka tega člena se poplačajo po
 creditors from first paragraph this part refl paid-off in
 vrstnemredu, kot so **bile** [osebne služnosti in
 linear order as aux_{PL} **been**_{F-PL} [personal bondage_{F-PL} and
 realna bremena] **vpisana** v zemljiški knjigi.
 real debit_{N-PL}] **written**_{N-PL} in land register.
 ‘The creditors from the first paragraph are being paid off in the
 order as the personal bondages and real debits were written in the
 land register.’

3 Previous Analyses of Conjunct Agreement

Having presented an introduction to the Slovenian phenomena, we turn to existing analyses of partial conjunct agreement and show that none of them cover Slovenian.

Johannessen (1998) claims that Head-initial languages have First-CA, while head-final languages have Last-CA. Slovenian has both First and Last-CA and should therefore be both head initial and head final. Analyzing Slovenian as head final because of the observed Last-CA seems incorrect.

Citko (2004) analyzes Polish Postverbal First-CA as due to the possibility of Agree with the first conjunct. The possibility of agreeing with the default masculine comes out of a structural ambiguity of coordinated subjects. They are either the complement of a null pronominal that carries masculine plural features and can agree with the verb or else they are simple &Ps in which case agreement will always be with the first conjunct (its features are the closest). Under this account, preverbal Last-CA is predicted to be impossible. Since Slovenian does have Last-CA, Citko’s explanation of partial CA cannot be used.

ABS (1994, 1999) explain partial agreement as due to predicate ellipsis in one conjunct of a clausal coordination, so that just the subject is left unerased. Examples like (17) and (18), where the two verbal elements carry different agreement (each agreeing with the closest conjunct), can easily be explained in such a way. What is deleted in such cases is simply

the internal part of the two coordinated clauses. But this analysis incorrectly predicts that partial agreement bleeds plural predicates such as ‘collided’, ‘together’, etc. This and further counterarguments to an ellipsis account are given in section 3.1.

Soltan (2005) claims that partial agreement is the result of Late Merge (e.g., Lebeaux 1991, Fox 2000, Bhatt & Pancheva 2004) of the non-agreeing conjunct. If one of the two conjuncts were indeed merged after preverbal agreement takes place, we would predict this conjunct could not participate in scope reconstruction, but this is not what we find.

As seen in (19), a universal can reconstruct under negation in a simple clause. The same is true when the subject is coordinated of two DPs of the same gender and number while agreement is with the full &P, (20). If Last-CA was the result of Late Merge of the first conjunct, the first conjunct should not reconstruct below negation in preverbal Last-CA sentences. The same is true for the second conjunct in postverbal First-CA sentences. This is not what we find, as shown from (21)-(22).

(19) Vse koze niso znorele.
 All goats_{F-PL} didn't go crazy_{F-PL}
 ?All > Neg, Neg > All

(20) Vse koze in vse goske niso nasedle prepričevanjem.
 All goats_{F-PL} and all geese_{F-PL} didn't fall for_{F-PL} the persuasions
 ?All > Neg, Neg > All

(21) Vse goske in vsa teleta niso preživele zime.
 All geese_{F-PL} and all calves_{N-PL} didn't survive_{N-PL} the winter
 ?All > Neg, Neg > All

(22) Zime niso preživele vse goske in vsa teleta.
 Winter didn't survive_{F-PL} all geese_{F-PL} and all calves_{N-PL}
 ?All > Neg, Neg > All

Additionally, these examples can be used as an argument against an ellipsis account. If (21) and (22), with Last-CA and First-CA respectively, involved coordination of two full clauses with later ellipsis of the part of the clause between the two (apparently) coordinated DPs, then we would expect each DP to reconstruct under negation within its own clause so that the only possible interpretation with the reconstructed scope would be ‘It

is not the case that all geese survived the winter and it is not the case that all calves survived the winter' meaning that some geese and some calves died. But this is not the only interpretation (21) and (22) have. They both can mean that only one animal, either a goose or a calf, did not survive the winter. This interpretation suggests that both conjuncts interact with a single negation, which is not what we would expect if single-conjunct agreement were the result of ellipsis (as proposed by ABS 1994, 1999). Note that these facts argue against an ellipsis or late merger account of the Slovenian conjunct agreement. We restrict our claims at present to Slovenian, remaining open to alternative analyses for other languages.

Kayne (1998), cited in den Dikken (2001), points out that English non-standard agreement is sensitive to the scope of the agreeing element. When agreement on the verb is plural, only an inverse scope interpretation is possible. The plural *all the doors* scopes over the singular *the key*: the subject refers to many keys, (23). Wide scope of the plural DP *all the doors* suggests that the plural DP raised covertly to a position above the singular DP *the key*. The plural DP would then be covertly in SpecDP from where it can trigger agreement with the verb. As this is the only position from which it could agree with the verb, therefore obligatory wide scope interpretation is expected with plural agreement. Den Dikken (2001) suggests that such linear agreement is a result of LF agreement (cf. Babyonyshev 1996 for a covert movement account of First-CA).

- (23) a. The key to all the doors is missing.
 b. 'The key to all the doors are missing. [wide scope of \forall only]

Importantly, no such restriction on the scope of the agreeing DP exists in Slovenian. If agreement with the last conjunct happened at LF (as suggested by den Dikken for (23)), we would expect the last conjunct to be positioned higher than the first conjunct at LF. That is, the last conjunct should scope over the first conjunct. As seen in (24) this is not the case. The verb agrees with the second conjunct in (24), yet the second conjunct appears to be lower than the first conjunct since it contains a pronoun bound by the universal quantifier in the first conjunct.

- (24) a. Vsa priznanja in njim dodane nagrade bodo podeljene.
 all certificates_N and them_{DAT} added prizes_F aux given_F
 'All certificates and prizes added to them will be given out.'

- b. Vsakopriznanje in njemu priložene nagrade bodo podeljene.
 every certificate_N and it_{DAT} added prizes_F aux given_F
 ‘Every certificate and prizes added to it will be given out.’

3.1 Slovenian First-CA and Last-CA Cannot Be Explained with Ellipsis

We have already given one argument against ellipsis above. Here we will provide an additional argument, a version of which was already discussed by Munn (1999) and Citko (2004). The ellipsis account predicts that predicates requiring plural or joint interpretation of the coordination like *together*, *collided* etc. will not be available with the coordinated subject triggering partial agreement.

If Slovenian partial agreement were the result of ellipsis, then there should not be anything in any of the two sentences that refers to both parts of the conjunct. As shown in (25), this prediction does not hold up. The collective predicate *collided into one another* requires joint participation of the coordinated subjects, so the fact that it is possible under agreement of the last conjunct shows that an ellipsis account is not valid.

- (25) Krava in njena teleta so trčila drug ob drugega.
 cow_F and her calves_N are collided_{N-PL} other into other
 ‘A cow and her calves collided into each other.’

Additionally, following the ellipsis analysis, the verb *collided* should be located in both clausal conjuncts of (25), but then (25) should look like (26) prior to ellipsis of the predicate inside of the first conjunct. (26) is out because the first conjunct is ungrammatical. The predicate *collide into each other* requires a plural subject, but the first clause only has a singular subject. An ellipsis account is therefore unavailable.

- (26) * Krava je trčila druga ob drugo in njena teleta
 cow_F aux_{SG} collided_{F-SG} other against other and her calves_N
 so trčila ...
 aux_{PL} collided_{N-PL}
 ‘A cow collided into each other and her calves collided into each other.’

Collide type verbs are available also in verb initial constructions, as in (27). The same logic applies. An ellipsis account is unavailable because

then we would not be able to explain the joint interpretation that the verb receives. Additionally, the second conjunct can be a singular DP which is ungrammatical with the predicate *collide into each other*.

- (27) Včeraj so trčile druga ob drugo krave in tele(ta).
 yesterday aux_{PL} collided_{F-PL} other into another cows_F and calf(es)_N
 'Yesterday cows and calves bumped into each other.'

Just like the verb *collide*, the collective adverb *together* also requires the two conjuncts to be interpreted jointly as a single subject. Again the ellipsis account would predict that with partial agreement, *together* should not be possible. As shown in (28a), this prediction is not borne out. Additionally, similarly to the previous examples, one of the conjuncts is singular, which means the sentence should look like (28b) prior to ellipsis. However, (28b) is not well-formed simply because a singular subject cannot have the adverb *together* in its clause.

- (28) a. Krava in njena teleta so se pasla skupaj
 cow_F and her calves_N are refl graze_{N-PL} together
 'A cow and her calves were grazing together.'
 b.* Krava se je pasla skupaj in teleta so se pasla skupaj.
 cow refl aux grazed together and calves aux refl grazed together

4 Last-CA beyond Slovenian

Slovenian is not the only language that has Last-CA. Although our intention here is not to give a full list of languages exhibiting a similar pattern, we will point out a few cases where the phenomena described in the paper can also be found.⁸ Certain Bantu languages exhibit a similar pattern (Marten 2000, Moossally 1998). As seen in the Swahili example in (29), the main predicate of the embedded clause agrees with the second conjunct *clothes* (Bantu verbs agree with subject and object in class, which is determined with the prefix on the noun. Note that the agreement morpheme is not a suffix, but we avoid description of the internal structure of the verb and give glosses from Marten 2000).

⁸ Serbo-Croatian also shows both First-CA and Last-CA (Željko Bošković, p.c.).

- (29) kwani huoni wewe kuwa ki-su na n-guo zimeshabihiana ...?
 ‘why, don’t you see that 7-knife and 10-clothes are alike-10 ...?’
 (Muhammed Said Abdulla’s novel *Mwana wa Yungi hulewa* 1976:
 96, cited in Marten 2000: 16)

Similar facts regarding conjunct agreement as in Swahili are also reported for Ndebele by Moossally (1998), (30)-(31). Examples (30)-(31) are from (Moossally 1998: 88), and (32) from (ibid.: 105)

- (30) Abalungu la-ma-bhunu a-yahleka.
 2pl-whiteman conj-6pl-Afrikaaner 6pl-laughing
 ‘The Englishmen and the Afrikaaners are laughing.’
- (31) A-mabhunu la-ba-lungu ba-yahleka.
 6pl-Afrikaaner conj-2pl-whitemen 2pl-laughing
 ‘The Afrikanners and the Englishmen are laughing.’
- (32) Izi-nja la-bo-mangoye le-nyoni zin-yamalele izolo.
 10pl-dog conj-2pl-cat conj-10pl-bird 10pl-disappeared yesterday
 ‘The dogs, birds, and cats disappeared yesterday.’

Linear agreement can be also found in English in cases of *neither ... nor* conjunctions.

- (33) a. [Neither that dog nor those cats] are housetrained.
 b. [Neither those cats nor that dog] is housetrained.
 c. Is [neither that dog nor those cats] housetrained?
 d. Are [neither those dogs nor this cat] housetrained?

These kinds of cases were discussed by Morgan (1972: 281). For the most surprising (33c) above with postverbal First-CA we have found the following examples on the internet (with the help of Google), (34).

- (34) a. Why is neither ESOL nor routes into employment on the agenda?
 b. Why is neither Kevin nor any of his guest-posters interested in commenting on Kelo?

In footnote 10 we outline a principled mechanism for linear-disjunct agreement in languages such as English.

5 Explaining Last-CA

We adopt the assumption that verbal agreement with a conjunction is mediated through ConjP for person and number agreement, but that gender agreement on predicates may target constituents smaller than ConjP. The computation of phi-features on ConjP proceeds as follows.

ConjP computes its number features: singular + singular = dual; everything else = plural. However, this computation only holds for the conjunction *and*. The disjunction *or* does not compute number features in this way, as can be observed by English examples above.

ConjP computes its person features by registering whether the conjuncts include any instance of the feature [+Author] or [+Participant]; if so, it records these values. We view the computation of ConjP's number values as an instance of maximizing the presuppositions associated with the presence of marked person features (see Sauerland 2006 for an extended development of this view). When a positive value of these features is not found, [-Author] and/or [-Participant] are supplied by default.

Importantly, ConjP *does not compute a gender value*.⁹ That is, while the computation of Person and Number on ConjP is deterministic, and in fact, well-motivated by semantic considerations, there is no well-founded universal theory of gender and no evidence forthcoming that ConjP needs to or can compute its own gender feature based on its conjuncts.

The participle agrees upward with its specifier, via Spec-Head agreement, for number with ConjP. However, the agreeing participle *has no ability to value its gender feature with ConjP*, because ConjP has no value for gender. There are two solutions for providing a gender value to PartP. One common crosslinguistic strategy, and indeed, one adopted by some Slovenian speakers, is that the participle may insert the default value for gender agreement, namely masculine.¹⁰

⁹ Badecker (2006), who distinguishes between *concord* agreement and *index* agreement, pursues a similar implementation in a model in which ConjP lacks concord features. A constraint requiring concord agreement then compels agreement with one of the internal conjuncts.

¹⁰ A note on the status of masculine as default gender: masculine is the default gender in cases of conjunction, regardless of the two conjuncts. However, in syntactically subjectless clauses such as impersonal and non-nominative experiencer constructions, third person neuter singular is the default agreement.

The second strategy, the one making Slovenian interesting in allowing Last-CA, is the possibility of an operation of *Second-Agree* for Gender, after Number – i.e., availability of split Phi-probes (Bejar 2003, Rezac 2004, among others). The proposal is that number agreement and gender agreement are computed *independently* by different “probes” on the functional head registering values for its phi-features.

Since the largest constituent in the specifier of the participial phrase, ConjP, has no gender value, the gender probe on PartP continues with the search within the projection of ConjP. We argue that the search must obey the following principle:¹¹

- (35) *Projection-Sister Search*: If the closest maximal projection MP lacks a value for a probed feature F, search for F within the sister of a projection of M

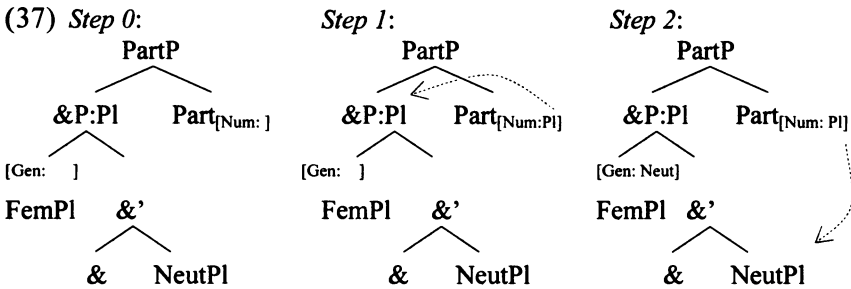
According to (35), PartP may find a value for gender within the sister to M', namely the first conjunct, or within the sister to M⁰, namely the second conjunct. There is, so to speak, a “tie” that (35) does not resolve. ConjP is the ideal target of PartP's gender probe. When phrase-structure alone does not dictate whether to agree with the sister of Conj' or Conj⁰, a tie-breaking principle must be employed.¹²

¹¹ Our account makes the prediction that when a maximal projection lacks a number feature, (35) will be obeyed as well. This prediction is upheld in the case of disjunctions. Unlike ConjP, DisjP lacks an inherent or deterministically-computed number feature, and hence the possibility of number agreement with sister-projection (i.e., the closest disjunct) will obtain. Haskell & MacDonald (2005) provide extensive experimental evidence for linear-disjunct agreement in English.

¹² As might be expected, this tie-breaking principle is a 'strategy' and hence we might expect some variation in which sister-projection is chosen. Perhaps this is a way to understand the examples of furthest-conjunct agreement reported in Corbett (1983). Preliminary consultant work with Siza Mtimbiri, a native speaker of Ndebele, reveals a preference for first-conjunct agreement even in preverbal cases. Confirmation of this pattern will reveal that while (35) is principled grammatical mechanism, (36) may represent one (perhaps the most natural) of a few possible solutions.

- (36) In case more than one phrase qualifies as a projection-sister to MP and more than one projection-sister bears a value for F, resolve the tie by agreeing with the closest projection-sister in terms of precedence.

When ConjP is preverbal, the second conjunct will be chosen by (35) and (36). The result is that the participle values the gender feature of the second conjunct. This is illustrated below:



If Step 2 is not taken, the participle will record default masculine gender. In other words, Step 2 is the marked option that not all languages or speakers take, arguably because of a preference for agreement to target larger constituents, and for gender and number to probe together.

6 Conclusions

We have shown that Slovenian does have Last-CA, which cannot be analyzed parallel to the more common First-CA. We have situated the locus of crosslinguistic and inter-speaker variability in the availability of a second independent gender probe on the agreeing participle. Due to the fact that ConjP cannot compute gender agreement from among its conjuncts, the availability of a second, independent gender probe enables the possibility of valuation by the next-closest constituent, namely the second conjunct.

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On the Grammaticalization of the ‘have’-perfect in Slavic*

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1 Introduction

An intriguing property of the compound tenses in Slavic is the fact that they are formed with the verb ‘be’ as the exclusive auxiliary in all contexts, irrespectively of the transitivity of the main verb. This is a rare pattern outside Slavic. For instance, in Germanic and Romance languages the verb ‘be’ is selected as the auxiliary only in unaccusative and passive structures. Alternatively, the verb ‘have’, but never the verb ‘be’ is the exclusive auxiliary. Moreover, in Slavic the auxiliary verb is accompanied by the so-called “*l*-participle” (cf. (1a) for Bulgarian), which unlike in Germanic and Romance, is morphologically different from the passive participle (cf. (1b)).

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- (1) a. Ivan e čel knjigata.
 Ivan be_{PRES.3SG} read_{PART.M.SG} book-the
 'Ivan has read/been reading the book.'
- b. Knigata e četana/*čela ot Ivan.
 book-the_F be_{PRES.3SG} read_{PASS.F.SG}/read_{PART.F.SG} by Ivan
 'The book is being read by Ivan.' (Bg)

The structure in (1a) is a Slavic innovation. The *l*-participle derives from a class of so-called *-lo adjectives in Proto-Indo-European, which signified someone's likelihood to perform a certain action or referred to a characteristic feature of the person involved (Damborský (1967: 126ff)). In Slavic these adjectives were completely verbalized and reanalyzed as participles; see Migdalski (2006) for an analysis of syntactic repercussions of this process.

This paper will not discuss structures involving the *l*-participle, but rather it will analyze a compound tense formed with the auxiliary 'have' and a form of the passive participle, henceforth termed the 'have'-perfect. This is the default compound tense in Germanic and Romance, but in Slavic it has developed only in Kashubian and Macedonian, in addition to the already existing periphrastic constructions formed with the *l*-participle. The principal property of the 'have'-perfect is that its main verb is the passive participle, which is always morphologically invariant irrespective of the gender and number specification of the subject or the object. Thus, even though the subject is masculine singular and the object is feminine singular in the Macedonian example in (2), the participle *završeno* is neuter singular.

- (2) Petar ja ima završeno taa rabota.
 Petar_M it_{CL.F.ACC} have_{IPL} finish_{PTP.N} that_F work_F
 'Petar has finished that work.' (Mac)

Some other Slavic languages use a non-grammaticalized type of this construction in limited contexts, which will be termed the 'stative perfect'. The main difference between these two structures is agreement in \varnothing -features and case between the object and the participle, which obtains in the 'stative perfect'.

- (3) Mam już wszystkie ciasta upieczone.
 have already all cakes_{F/N.PL.ACC} bake_{PASS.F/N.PL.ACC}
 'I have already baked all the cakes.' (Polish)

Diachronic studies show that stative perfect was the source of the 'have'-perfect in Germanic (cf. Behaghel 1928, Hoekstra 1984, Kern 1912, Mitchell 1985, and Wischer 2004) and Romance (cf. Salvi 1987). In Slavic the process has not been completed, which allows us to observe its diachrony from a synchronic point of view.

The paper is organized as follows. Section 2 discusses properties of the 'have'-perfect by contrasting Kashubian and Macedonian data. Section 3 analyzes the languages in which the construction has not been grammaticalized yet and occurs as the stative perfect. Section 4 provides a syntactic account of the grammaticalization of the stative perfect into the 'have'-perfect.

2 Properties of the 'have'-perfect

The 'have'-perfect in Kashubian displays auxiliary alternation that is related to the transitivity of the participle that the auxiliary verb appears with. The auxiliary 'be' may only select unaccusative past participles, while the auxiliary 'have' is accompanied by transitive and unergative participles. The unaccusative past participles agree with the subject in gender and number, whereas the transitive participles are always marked for neuter singular. Thus, the distribution of the auxiliaries in the 'have'-perfect in Kashubian is largely the same as in Dutch and French.

- (4) a. Ta białka je precz jidzenô.
 thiswoman_{F.SG} be_{AUX.3.SG} away go_{PTP.F.SG}
 'This woman has gone away.' (Csb, Stone 2002: 777)
- b. Jô móm tą białkã bité.
 I have_{PRES.1SG} this_F woman_{ACC.F.SG} beaten_{PTP.SG.N}
 'I have beaten this woman.' (Csb)

In Macedonian the verb 'have' is used as the auxiliary in all contexts in this construction, and the participle is always neuter singular. In this way Macedonian resembles English and Spanish, which also use 'have' as the exclusive auxiliary in the corresponding compound tenses.

- (5) a. Gostite imaat dojdeno.
 guests-the have_{3PL} arrive_{PTP.N}
 'The guests have arrived.' (Mac, Elliott 2001: 39)
- b. Go imam skinato moeto novo palto.
 him_{CL.ACC} have_{1SG} tear_{PTP.N} my-the new coat
 'I have torn my new coat.' (Mac)

The examples in (6) illustrate that the past participles in the 'have'-perfect are morphologically the same as passive participles marked for neuter singular.

- (6) a. To dziecko je bité.
 this_N child_N be_{3SG} beat_{PASS.N.SG}
 'This child is beaten.' (Csb, Breza and Treder 1981: 134)
- b. Novoto palto mu e skinato.
 new-the_N coat_N him_{CL.DAT} be_{3SG} tear_{PASS.SG.N}
 'His new coat is torn.' (Mac)

As indicated in (7), in both languages the past participles may occur in all aspectual variants.

- (7) a. Nen pòjk mô wëpité/pité mlékò.
 this_M cat_M have_{PRES.3SG} drink_{PTP.N.SG.PRF/IMPF} milk_N
 'This cat has drunk/has been drinking milk.' (Csb)
- b. Gi imame pročitano/čitano knjigite.
 them_{CL.ACC} have_{1PL} read_{PTP.N.SG.PRF/IMPF} books-the
 'We have read/been reading the books.' (Mac)

Virtually all verbs are possible as past participles in this construction. The major exceptions are the verbs 'be' and 'have', which are accepted only by speakers of the Western dialects of Macedonian, that is in the area where the construction is reported to be the most widespread and where it was grammaticalized the earliest.

- (8) a. Imam bideno tamu.
 have_{PRES.1SG} be_{PTP.N} there
 'I have been there.'
 (Radožda-Vevčani dialect of Mac, Hendriks 1976: 226)

- b. Imam imano vakov fustan.
 have_{1SG} have_{PASS.N} such_{M.SG} dress
 ‘I have had a dress like this one.’

(Ohrid and Struga dialects of Mac; Tomić 2006: 342)

This option is considered ill-formed in the standard dialect, and a past tense form or a compound tense with the *l*-participle is used instead.

- (9) a. Toj beše vo Skopje.
 he be_{PAST.3SG} in Skopje
 ‘He was in Skopje.’

- b. Toj bil vo Skopje.
 he be_{PART.M.SG} in Skopje
 ‘Supposedly, he was in Skopje.’

(Mac, Friedman 2002: 272)

In both Kashubian and Macedonian the construction is disallowed with modal verbs occurring as past participles¹. The *l*-participle (in Kashubian, cf. (10)) or a past tense verb (in Macedonian, cf. (11)) must be used to render the modal meaning instead.

- (10) a₁. *Jô miôł muszoné...
 I have_{PART.M.SG} must_{PTP.N.SG}
 a₂. Muszelé to zrobiec, bò przébliżiwôł
 must_{PART.N.SG} it do_{INF} because approach_{PART.M.SG}
 sã termin.
 REFL deadline_{M.SG}
 ‘They had to do this, because the deadline was approaching.’

¹ This restriction is surprising, because unlike in English modal verbs do not have a defective paradigm in Slavic and pattern like all other verbs. See Migdalski 2006, ch. 3, for an explanation related to the degree of verbiness of participles in the stative perfect, the ‘have’-perfect, and impersonal participles in Polish.

- b₁. *Jô miôł rozmioné...
 I have_{PART.M.SG} can_{PTP.N.SG}
- b₂. Nie rozmielé wéłtomaczéc sã z nygò.
 NEG can_{PART.N.SG} explain_{INF} REFL from this
 'They couldn't explain themselves.' (Csb)

- (11) a₁. *Imam morano/trebano da gi napravam
 have_{1SG} must_{PTP.N/mustPTP.N} da them_{CL.ACC} do_{SUBJ.1SG}
 ovie raboti.
 these work_{PL}
- a₂. Morav da ja napravam ovaá rabota.
 must_{PAST.1SG} that it_{CL.F} do_{SUBJ.1SG} this_F work
 'I have had to do this work.'

- b₁. *Nemam moženo da se objasnam.
 NEG+have_{1SG} can_{PTP.N} that REFL explain_{SUBJ.1SG}
- b₂. Ne možev da se objasnam.
 NEG can_{PAST.1SG} that REFL explain_{SUBJ.1SG}
 'I couldn't explain myself.' (Mac)

Assuming with Oubouzar (1974) and Breitbarth (2005) that a structure is completely grammaticalized once it has developed a full paradigm, the gaps in the 'have'-perfect paradigm indicate that this construction has been most fully grammaticalized in Slavic in the Western dialects of Macedonian (cf. (8)).

Before concluding the section let me point out that some speakers of Kashubian permit the *l*-participle as the main verb in the 'have'-perfect, which is on a par with the past participle appearing in the neuter singular variant.

- (12) Jô móm jadłe pomuchla.
 I have_{1SG} eat_{PART.N.SG} cod_{F.SG}
 'I have (already) eaten cod.' (Csb)

The same group of Kashubian speakers also use the *l*-participle as a passive participle.

- (13) Mój czôłn je òsôdłŷ na mielëznie.
 My ship be_{3SG} come-down_{PART.M.SG} on shallows
 ‘My ship is on shallows.’ (Csb)

This is an unusual pattern in Slavic. According to Piotrowski (1981: 13), this shows that Kashubian has lost a categorial distinction between *l*-participles and passive participles. Possibly, this has happened under the influence of German, which has the same type of participle in passive and compound tense constructions.

It is difficult to trace the origin of the ‘have’-perfect in Kashubian, because the first description of its grammar comes from the late 19th century (Ceynova 1879), and there are very few literary works available. However, the evolution of this construction in Macedonian is quite well documented. The earliest example that is reminiscent of the contemporary ‘have’ perfect was found in a manuscript from the monastery of Krnino in 1706. The sentence contains a passive participle that agrees in number and gender with the object clitic, so it represents the stative perfect.

- (14) Имамъ go aforesanъ.
 have_{PRES.ISG} him_{CL.ACC} excommunicate_{PASS.M.SG}
 ‘I [will] have him excommunicated.’
 (18th c. Mac, Koneski 1987: 201)

In the contemporary version of this sentence the participle does not agree with the object, but it occurs in the neuter singular form. Thus, the structure in (15) exemplifies a grammaticalized ‘have’-perfect.

- (15) Go imam aforesano.
 him_{CL.ACC} have_{PRES.ISG} excommunicate_{PTP.N}
 ‘I have excommunicated him.’ (Mac, Elliott 2001: 39)

In Macedonian the stative perfect has been completely replaced by the ‘have’-perfect. However, the stative perfect is still available in many other Slavic languages, as will be shown in section 3. Section 4 will contrast the ‘have’-perfect with the stative perfect and will provide a syntactic account of its grammaticalization.

3 Properties of the Stative Perfect

The stative perfect has been reported in the literature to be available in

Polish (cf.16a), Czech (cf.16b), Serbo-Croatian (cf.16c), and Bulgarian (cf.16d), among others.

- (16) a. Mam już zapięte pasy.
 have_{1SG} already fasten_{PASS.ACC.F/N.PL} seatbelts_{ACC.F/N.PL}
 'I have already fastened the seatbelts.' (Pl)
- b. Mám úlohu napsanou.
 have_{1SG} task_{ACC.F.SG} write_{PASS.ACC.F.SG}
 'I have my task written.' (Czech, Maslov 1988: 80)
- c. On nema položen nijedan ispit.
 he NEG+have_{1SG} pass_{PASS.M.SG} NEG+single exam_{M.SG}
 'He has not passed a single exam./He does not have a single exam passed.'²
 (S-C, Dimitrovski 1957: 246, quoted in Friedman 1976: 97)
- d. Toj ima dve nivi izoreni.
 he have_{1SG} two field_{PL} plow_{PASS.PL}
 'He has two fields ploughed./He has two ploughed fields./He has ploughed two fields.'
 (Bg, Dimitrovski 1957: 246, quoted in Friedman 1976: 97)

As was noted above, the most noticeable difference between stative perfect and 'have'-perfect is agreement between the object and the participle, which obtains only in the former type of constructions. However, the two structures differ in more respects, which will be demonstrated below by contrasting stative perfect constructions in Polish with 'have'-perfects in Macedonian. Thus, the sentence in (17a) shows that in the case of stative perfects, the agent of the action described by the participle need not be the same as the subject of the entire clause. Conversely, the subject of the 'have'-perfect clause (cf. (17b)) must be the same as the agent of the event characterized by the past participle.

² The variations in translations are due to the authors quoted. They are not meant as a criterion for distinguishing the stative perfect from the 'have'-perfect.

- (17) a. Mamy już zarezerwowane miejsca.
 have_{1.PL} already book_{PASS.ACC.F/N.PL} seats_{ACC.F/N.PL}
 'We have already booked our seats.'
 'We have already had our seats booked.' (Pl)
- b. Gi imame veke rezervirano sedistata.
 them have_{1.PL} already reserve_{PRF.PTP.N.SG} seats-the
 'We have already booked our seats.'
 *'Someone has already booked the seats for us.' (Mac)

The examples in (7) above illustrate that 'have'-perfects permit both perfective and imperfective variants of the main verb. By contrast, stative-perfects are possible only with perfective forms (cf. (18)).

- (18) Mam już przeczytane/*czytane dwie
 have_{1.SG} already read_{PASS.F/N.ACC.PL.PRF/IMPF} two_{F/N}
 książki.
 books_{F/N.ACC}
 'I already have two books finished (i.e. read).' (Pl)

Example (19a) shows that the one-place predicates may appear as past participles only in the 'have'-perfect. As indicated in (19b), they are excluded in the stative perfect.

- (19) a. Goce Delčev ima spieno tuka.
 Goce Delčev have_{3.SG} sleep_{PTP.N} here
 'Goce Delčev has slept here.' (Mac, Friedman 1977: 91)
- b. *Jan ma już tutaj spane.
 Jan have_{3.SG} already here sleep_{PASS.N.SG} (Pl)

Correspondingly, only 'have'-perfects may be modified by adverbs (cf. 20).

- (20) a. Imam često piono mleko.
 have_{1.SG} often drink_{PTP.N} milk
 'I have often drunk milk.' (Mac)
- b. *Mam często wypite mleko.
 have_{1.SG} often drink_{PASS.N.SG.PRF} milk_{N.SG} (Pl)

The stative perfect also imposes semantic restrictions on the subject. The example in (21a) shows that the subject may not be inanimate in this

construction. By contrast, the 'have'-perfect permits inanimate subjects (cf. (21b)).

- (21) a. *Statek ma uderzone w skały.
 ship have_{3SG} hit_{F/N.PL} in rocks
 'The ship hit rocks.' (Pl)
- b. Brodot se ima udreno vo karpite.
 ship-the REFL have_{3SG} hit_{PTP.N} in rocks
 'The ship hit rocks.' (Mac)

Moreover, even though the stative perfect contains the verb 'have', it need not express the meaning of possession, as demonstrated by the data in (22). The events of selling apples and losing umbrellas imply that the agent does not possess these objects any more, which shows that the semantics of the verb 'have' is bleached in this structure.

- (22) a. Mam wszystkie jabłka sprzedane.
 have_{1SG} all apples_{F/N.PL} sell_{PASS.F/N.PL}
 'All my apples have been sold.' (Pl)
- b. Tazi godina imam zagubeni pet čadāra.
 this year have_{1SG} lose_{PASS.PL} five umbrellas
 'This year I have lost five umbrellas.'
 (Bg, Lindstedt 1994: 41)

It has also been observed that some grammatical properties of the stative perfect indicate that it is slowly being reanalyzed as the 'have'-perfect. For instance, Pisarkowa (1984: 58) notices that the passive participle in the stative perfect does not need to agree with its complement if this complement is deleted. Consider the dialogue in (23), with both variants of the answers equally acceptable.

- (23) A Słodził-eś herbatę?
 sweeten_{PART.M.SG}+AUX.2SG tea_{ACC}
 'Have you put sugar in your tea?'
- B' Mam już posłodzoną (herbatę).
 have_{1SG} already sweeten_{PASS.ACC.F.SG} tea_{ACC.F.SG}
- B'' Mam już posłodzone (*herbatę).
 have_{1SG} already sweeten_{PASS.ACC.N.SG} tea_{ACC.F.SG} (Pl)

In the answer in (23B'), the passive participle agrees with the elided

object in case and ϕ -features. In (23B''), the participle occurs in the default neuter singular form. An overt realization of the object *herbatę* results in agreement mismatch and hence is ungrammatical.

4 Towards an Analysis

I will begin the analysis of the stative perfect by establishing a syntactic relation between the direct object and the passive participle. The two elements agree in ϕ -features, and the participle shows adjectival morphology. However, this does not mean that the participle is an adjectival modifier of the direct object. This can be demonstrated using a test proposed by Salvi (1987), which consists in pronominalization of the direct object. As shown in (24), when the direct object is pronominalized, the passive participle remains overt.

- (24) a. Mam już wszystkie ciasta upieczone.
 have_{1SG} already all cakes_{F/N.PL} bake_{PASS.F/N.PL}
 'I have already baked all the cakes.'
- b. Mam już je wszystkie upieczone.
 have_{1SG} already them_{F/N} all bake_{PASS.F/N.PL}
 'I have baked all of them already.' (PI)

Conversely, when a noun is (pre-)modified by an adjective, pronominalization affects both the noun and the adjective.

- (25) a. Mam wiele ciekawych książek.
 have_{1SG} many_{GEN.F/N.PL} interesting_{GEN.F/N.PL} books_{GEN.F/N.PL}
 'I have a lot of interesting books.'
- b. Mam ich wiele (*ciekawych).
 have_{1SG} them_{GEN.F/N.PL} many_{GEN.F/N.PL} interesting_{GEN.F/N.PL}
 'I have many of them.' (PI)

The contrast shows that the passive participle is not an adjectival modifier of the direct object in (24). I will assume that the two constituents form a Small Clause, and that the stative perfect in (26a) has the structure as in (26b).

- (26) a. Mam pasy zapięte.
 have_{1SG} seatbelts_{ACC.F/N.PL} fasten_{PASS.ACC.F/N.PL}
 'I have fastened the seatbelts.'
- b. [VP [V mam [(SC)_{AP} [NP pasy [A zapięte]]]]] (Pl)

The subject of the Small Clause *pasy* 'seatbelts' is in the predicate relationship with the adjectival passive participle *zapięte* 'fastened'. The fact that the two elements form a Small Clause is overtly manifested through agreement on the participle.

It is generally assumed in the analyses of the grammaticalization of 'have'-perfects in Germanic (cf. Hoekstra 1986) and Romance (cf. Salvi 1987) that the process consists in reduction of the Small Clause selected by the verb 'have' in the stative perfect. I propose that this happens when the adjectival passive participle is reinterpreted as a verbal category. In syntactic terms this means that the passive participle is no longer the head of the Small Clause, but is reanalyzed as the head of the PartP, which takes the former subject of the Small Clause as a complement. This eliminates the Small Clause configuration, which results in the lack of agreement between the participle and the object. As an illustration, a template representing the 'have'-perfect in (27a) is given in (27b).

- (27) a. (Jas) imam kupeno knigi.
 I have_{1SG} buy_{PTP.N.SG} books_{F.PL}
 'I have bought the books.'
- b. [VP jas [VP imam [PartP kupeno [DP knigite]]]] (Mac)

Hoekstra (1984, 1986) proposes a test which can be used as a criterion for the emergence of the 'have'-perfect. He points out that a Small Clause may not consist solely of a predicate, and this is why the English examples in (28) are ungrammatical.

- (28) a. *I want laughed.
 b. I want *(it) off my list.

This property might be used as a criterion for the grammaticalization of the 'have'-perfect, which is completed only once one-place predicates may complement the verb 'have'. This is a condition for the verb 'have' to function as an auxiliary, and it explains why 'have' may be complemented by the one-place predicate 'sleep' in the 'have'-perfect in

(19a), but not in the stative perfect in (19b), repeated as (29a and b) below.

- (29) a. Goce Delčev ima spieno tuka.
 Goce Delčev have_{PRES.3SG} sleep_{PTP.N} here
 ‘Goce Delčev has slept here.’ (Mac, Friedman 1977: 91)
- b. *Jan ma juž tutaj spane.
 Jan have_{1SG} already here sleep_{PASS.N.SG} (PI)

One of the intriguing properties of the stative perfect that still needs to be accounted for is the prerequisite that all the participles must appear in the perfective form in this construction (cf. (18) for Polish; repeated as (30) below). I would like to explain this requirement by referring to Embick’s (2004) analysis of passive participles.³

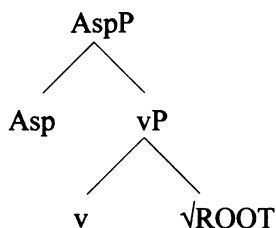
- (30) Mam juž przeczytane/*cztane dwie książki.
 have_{1SG} already read_{PASS.F/N.ACC.PL.PRF/IMPF} two books_{F/N.ACC}
 ‘I have already finished reading two books.’ (PI)

Embick (2004: 361ff) suggests that adjectival passive participles differ from verbal passive participles in a structural way.⁴ The root of the verbal passive participle is dominated by *v*, a verbalizing head, which in turn is dominated by an Asp[ect] projection. Adjectival passive participles lack the *v* projection above them, so they attach directly to Asp in the course of derivation.

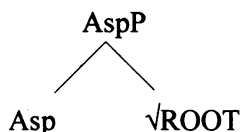
³ The audience at the FASL-15 conference have pointed out to me that the stative perfect may permit imperfective passives as participles, but a special interpretation is then required: the agent of the event described by the participle may not be the same as the agent of the entire clause. Thus, the sentence in (30) is acceptable with the imperfective form *czytane* under the interpretation ‘Somebody is reading two books to me’. This fact implies that the proposal developed below requires some modification, but I leave this for future research.

⁴ I am slightly simplifying Embick’s analysis here, because he proposes a ternary distinction of participles. Namely, he examines the traditional division of passive participles in English into “verbal” and “adjectival” ones (cf. Wasow 1977); Levin and Rappaport (1986), employs the term “eventive passive” for the former group and proposes a distinction between “stative” and “resultative” in the latter.

(31) a. Verbal passives



b. Adjectival passives



I assume that the Asp head hosts perfective prefixes.⁵ Since adjectival passives are not dominated by the v-head, they must directly attach to Asp in the course of the derivation. This is why only perfective forms of participles are possible in the stative perfects in Slavic. Given that the (verbal) past participles in 'have'-perfects are not immediately dominated by the Asp head, they may appear in both perfective and imperfective variants.

Verbal passives are dominated by v, which is a verbalizing head that encodes eventivity and agentivity. One of the consequences of the presence of v is the possibility of adverbial modification, which is compatible with eventive, but not with stative readings.

- (32) a. The package remained carefully opened.
 b. * The package remained carefully open.

⁵ The assumption follows from the commonly accepted idea that imperfective aspect is semantically the default (unmarked) form in Slavic. For instance, perfective aspect requires an aspectual prefix, whereas imperfective aspect does not. In contrast to perfective aspect, imperfective aspect has underspecified semantics, which may be pragmatically modified, and it may express a wider variety of meanings, such as habituality (cf. Klimek 2005).

- (33) a. The carefully opened package.
 b. * The carefully open package.
 (Embick 2004: 357; cf. also Kratzer 1994)

Correspondingly, since the adjectival passives in the stative perfect constructions lack the verbalizing *v* head above their roots, they never allow any adverbial modification (cf. (20a), repeated below as (34b), which is contrasted with the ‘have’-perfect in (34a)).

- (34) a. Imam često pieno mleko.
 have_{1SG} often drink_{PTP.N} milk
 ‘I have often drunk milk.’ (Mac)
- b. *Mam często pite mleko.
 have_{1SG} often drink_{PASS.N.SG} milk_{N.SG} (Pl)

5 Conclusions

To summarize, this paper has investigated the grammaticalization of ‘have’-perfects in the Slavic languages. The analysis has been carried out by contrasting the ‘have’-perfect in Kashubian and Macedonian with the stative perfect that occurs in some other Slavic languages. It has been shown that the process involves elimination of the Small Clause selected by the verb ‘have’ in the stative perfect. The passive participle becomes verbalized, which means that it is no longer the complement of the empty head of the Small Clause, but instead it starts to occupy this position, which is reinterpreted as V^0 .

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Split Phrases in Colloquial Russian: A Corpus Study*

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Colloquial Russian (CR) is famous for its free word order (even freer than in literary Russian); yet, even in CR the word order is not completely random (AG 1960, vol. II: 208). The aim of this paper is two-fold: (i) to identify the bounds of the word order freedom in CR with respect to split phrases, and (ii) to examine some recently proposed theories of split phrases for their suitability for CR. Importantly, the data in this study comes from a corpus study; however, since the existing corpora of Russian are based on written sources, I compiled a new corpus of CR consisting of transcripts of conversations (RRR'70, 73), excerpts from conversations reported in sources examining CR (L'76, 99), direct speech in several contemporary novels and scripts of 23 feature films, supplemented by examples attested by me in native speech (full list of sources is available upon request).

1 Basic Splits

Even a cursory examination of splits in CR shows that they are much freer than has been reported so far in the literature, both for (Colloquial) Russian itself and for other languages (specific differences between splits in CR and in other languages identified in this study are reported below). As illustrated in (1), not only noun phrases can be split (1a-b), but also PPs (1c) and APs (1d); moreover, splits can apply to both arguments (1a, c) and predicates (1b, d) alike. What unifies all splits in Russian is that a

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special intonation must be used; I return to this issue in section 4.1 below.¹ In what follows, I boldface parts of split phrases and refer to them as ‘part A’, ‘part B’, ‘part C’, etc. (counting from left to right).

- (1) a. **Klubničnogo** možno kupit’ **varenja!**
 strawberry_{ADJ} possible to-buy jam
 ‘It is possible to buy STRAWBERRY jam!’ [RG II: 208]
- b. **Nevošpitannyj** ty **čelovek,** Ručnikov!
 ill-bred you man Ruchnikov
 ‘You, Ruchnikov, are an ILL-BRED man!’ [MVIN]
- c. **Na sledujuščij** ostan’tes’ **trollejbus!**
 for next stay trolleybus
 ‘Stay for the NEXT trolleybus!’ [L’99: 427]
- d. Pokaži-ka svoi ručonki! **Bol’no** oni u tebjā **interesnye!**
 show self’s hands very they to you interesting
 ‘Hey, show me your hands! They’re SO interesting!’ [MVIN]

I assume that Russian is a configurational language (cf. Bailyn 1995, Sekerina 1997) and that parts of split phrases are merged together (cf. also the discussion surrounding (15a) below). Given this assumption, the question is how these phrases end up split apart? Current analyses of splits can be divided into two approaches: movement and non-movement approaches, which I examine in sections 2 and 3; in section 4, I argue for a different approach that combines elements of both movement and non-movement approaches. Section 5 concludes the paper.

2 Movement Approaches to Splits

Two analyses have been proposed for split phrases in Slavic based on the idea that one or the other part of the split phrase is extracted from it. According to the Direct Extraction analysis (cf. Bošković 2005), it is part A of the split that is extracted (and moved to some position on the left), whereas according to the Remnant Movement (RM) analysis, proposed by Bašić (2004), it is part B of the split that is extracted first, followed by a remnant phrasal movement of the XP which contains part A and the trace

¹ Unlike Czech (see Kučerová, this volume), CR does not allow splits without contrastive intonation.

of part B. In what follows, I argue that neither of these two analyses can be applied to the CR splits.

2.1 Direct Extraction Analysis

According to the Direct Extraction (DE) analysis, part A of the split (e.g., the adjective in (1a)) is extracted from the split XP and moved to some position on the left (hence, the term ‘Left Branch Extraction’, or LBE). However, it appears that this is not the correct analysis for CR splits because the supposed extraction violates a number of well-established constraints on movement.

First, “LBE” in CR can apply to non-constituents: part A of a split need not be a constituent. Examples of this sort, typically involving a (light/functional) preposition plus adjective as part A (see (1c) above) have been noted in the literature; the solution proposed by Corver (1992) is that the light preposition cliticizes to a lexical host (in these cases, the adjective) and is carried along with it to the landing site of the LBE. However, this solution is inadequate for cases involving heavy/lexical prepositions, which can be stressed (hence, not a clitic); (2a). Furthermore, part A can be a more complex non-constituent string (2b).

- (2) a. **Protiv sovetskoj on vystupal vlasti.**
 against Soviet he demonstrated regime
 ‘It is against the SOVIET regime that he demonstrated.’
 OR: ‘It is AGAINST the Soviet regime that he demonstrated.’
- b. ... **vot èti češskie s supinatorami pokupat’ tufli.**
 here those Czech with arch-supports to-buy shoes
 ‘... to buy those Czech shoes with arch-supports.’ [L’76: 231]

Second, “LBE” in CR is possible out of some islands that prevent other types of extraction. For example, although inherently case-marked noun phrases are islands for complement extraction, “LBE” can apply to split such phrases, (3). Also, “LBE” can apply to one of the conjuncts but not necessarily ATB to both conjuncts, (4), and to lexical compounds, (5).

- (3) Ved’ ona let na pjat’ **nas** starše vot **nyněšnix** byla.
 EMPH she years on five us older behold present-day was
 ‘...she was about five years older than us today...’ [MSNV]
- (4) Ja **tvoi** vystirala **čulki** i rubašku.
 I your washed stockings and shirt
 OK: ‘I washed your stockings and a shirt.’ [RRR’73: 387]

- (5) a. **V vagon** ona xodila **restoran** obedat'.
 to carriage she went restaurant to-dine
 'She used to go dine in a carriage-restaurant.' [RRR'73: 390]
- b. **Rabočij** sam **klass** vybiraet sebe rukovoditelja.
 working by-self class selects to-self leader
 'The proletariat itself selects its own leader.' [L'99: 410]

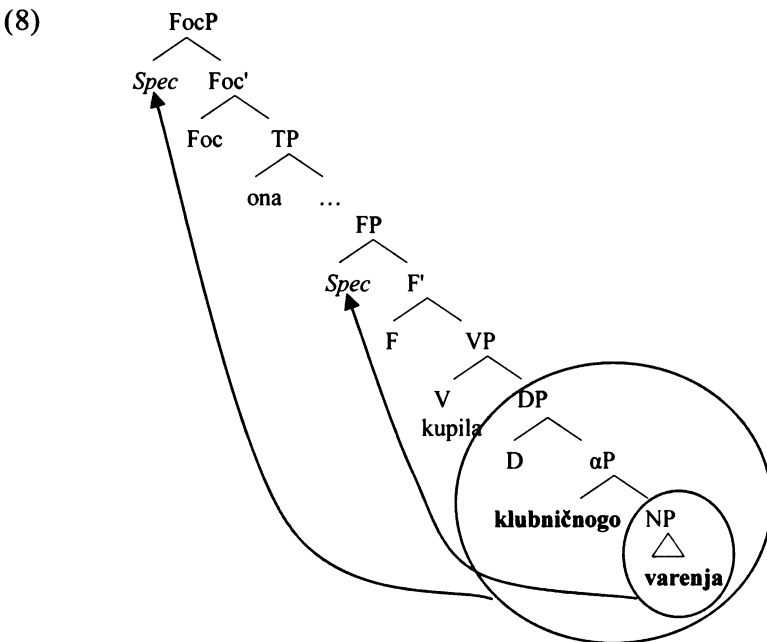
Third, splits in CR are unlike the *combien*-splits in French, analyzed as cases of sub-extraction/LBE; cf. Rizzi (2001) and the references cited therein. As expected of cases of true sub-extraction (i.e., non-argument extraction), *combien*-splits in French are sensitive not only to strong islands (i.e., subject, complex NP, and adjunct islands), but also to weak islands (i.e., wh-, negative, and factive islands); cf. (6). In contrast, as illustrated in (7), splits in CR are not sensitive to weak islands.

- (6) a. * **Combien** sais-tu comment résoudre < combien > de problèmes?
 how-many know-you how to-solve of problems
 'How many problems do you know how to solve?' [Rizzi 2001]
- b. * **Combien** n'as-tu pas lu < combien > de livres?
 how-many 'ne'-have-you not read of books
 'How many books have you not read?' [Butler & Mathieu 2004]
- c. * **Combien** regretted-tu avoir échoué < combien > d'examens ?
 how-many regret-you having failed of exams
 'How many exams do you regret having failed?'
- (7) a. **Zvězdnij** ne skažete [gde **restoran**]?
 "starry" not you-will-say where restaurant
 'Please tell me where ZVEZDNYJ restaurant is?' [L'76: 217]
- b. **Vy v drugoj** ne budete zaxodit' **magazin**, Tanečka?
 you in another not will go-in shop, Tanechka
 'You won't go into ANOTHER shop, Tanechka?' [L'76: 219]
- c. **Nesvežuju** ty žaleeš čto poel ikru?
 past-its-best you regret that ate caviar
 'Do you regret eating NOT-SO-FRESH caviar?'

To summarize, the DE analysis is challenged by the fact that part A of splits in CR need not be a constituent, but can "cross" islands which typically prevent (non-argument) extraction. Hence, I reject this analysis.

2.2 Remnant Movement (RM) Analysis

The second type of movement analysis, based on the concept of remnant movement, has been developed by Bašić (2004). Although the focus of Bašić's work is on Serbo-Croatian, she claims that her analysis is fully extendable to (Colloquial) Russian. In what follows, I challenge this claim and show that the RM analysis runs into insurmountable problems when confronted by CR data. According to Bašić, splits are derived as follows: (i) the NP that becomes part B moves into the Spec-FP; (ii), what becomes part A (i.e., the remnant containing part A and the trace of part B) moves to the Spec-FocP; cf. (8) below.



Despite its initial attractiveness, this RM analysis runs into serious problems, both theoretical and empirical, when applied to CR. One theoretical problem facing the RM analysis concerns the issue of what motivates the movement of part B to Spec-FP. According to Bašić (2004: 63-69), part B needs to escape the phrase that will be focused (that is, part A). But this solution requires Look Ahead, since part A gets focused only

later, after it moves to Spec-FocP (which at the time part B moves is not even merged yet). Below I will focus on empirical problems.

The first empirical problem facing the RM analysis is reminiscent of the problem facing the DE analysis: part A need not be a constituent, which makes an analysis based on extracting part A problematic. As it turns out, part B need not be a constituent either; (9a). Moreover, examples are attested where neither part A nor part B is a constituent; (9b). Furthermore, triple-splits are also possible (9c). Finally, note that these examples threaten Bošković's (2005) assumption that LBE involves AP-movement (as opposed to A-movement); clearly, it is not the case in CR that a whole AP needs to be extracted.

- (9) a. **Nezlobivij** u nego **soveršenno** **xarakter**.
 kindhearted to him absolutely disposition
 'He is an absolutely kindhearted disposition.' [RRR'70: 58]
- b. **Odna očen' est' èlegantnaja rubaška** u Peti.
 one very there-is elegant shirt to Petja
 'Petya has one VERY elegant shirt.' [RRR'73: 390]
- c. Ox **kakix** ja sebe **blinov** segodnja nadelala **vkusnyx**.
 Oh what I to-self pancakes today CUM-made tasty
 'What tasty pancakes I made for myself today.' [RRR'70: 236]

Another empirical problem concerns the unmarked word order in such splits. According to the RM analysis part A is expected to appear in the leftmost focus position in the clause, whereas part B is expected to be fronted somewhat but not as far as part A. This expectation is met for Serbo-Croatian (based on the data presented in the literature), but not for CR. Note first that part A need not appear at the left edge of the clause:

- (10) Kuricu **na bol'šuju** položi **tarelku**.
 chicken onto big put plate
 'Put the chicken on a BIG plate.' [RRR'73: 387]

Furthermore, the unmarked placement of part B in CR is in-situ rather than fronted with respect to the verb (11), in clear contrast with Serbo-Croatian (Serbo-Croatian examples in (12) are based on Bašić (2004: 57, 60) and the judgments of additional informants). This contrast is particularly clear in more complex examples involving ditransitive verbs.

- (11) a. ??**Nailučšemu** oni **kandidatu** predložili poziciju.
 best they candidate offered job
 b. **Nailučšemu** oni predložili **kandidatu** poziciju.
 best they offered candidate job
 'It is the BEST candidate that they offered a job.'
 c. ***Nailučšemu** oni predložili poziciju **kandidatu**.
 best they offered job candidate
- (12) a. ? **Najboljem** su oni **kandidatu** ponudili posao.
 best aux they candidate offered job
 'It is the BEST candidate that they offered a job.'
 b. ***Najboljem** su oni ponudili **kandidatu** posao.
 best aux they offered candidate job
 c. ***Najboljem** su oni ponudili posao **kandidatu**.
 best aux they offered job candidate

Note in (11b) that the placement of part B is not at the right periphery of the clause but rather in-situ, which is further confirmed by experimental findings of Sekerina (1997: 285-289): when presented with part A of the split (*važnogo* 'important') and the verb (*priglasili* 'invited'), in that order, 65.9% of Sekerina's subjects completed the sentence with part B followed by an adverbial, thus choosing to place part B in a non-peripheral position (13b). Only 19.8% of the subjects chose the reverse order, that is one where part B is clearly at the right periphery (13a), and the remaining 14.3% completed the sentence by part B only (in those cases it is placed at the right periphery by default (13c).

- (13) a. Right periphery response (19.8%)
Važnogo priglasili my včera **gostja**.
 important_{ACC} invited we yesterday guest_{ACC}
 'We invited an important guest yesterday.'
- b. Non-periphery response (65.9%)
Važnogo priglasili **gostja** včera.
 important_{ACC} invited guest_{ACC} yesterday
 '(They) invited an important guest yesterday.'
- c. Periphery by default response (14.3%)
Važnogo priglasili **gostja**.
 important_{ACC} invited guest_{ACC}
 '(They) invited an important guest.'

To summarize, the RM analysis cannot account for the possible non-constituent nature of part B, nor for the unmarked patterns of placement of either part A or part B in CR. Therefore, I reject this analysis as well.

3 Non-Movement Approaches to Splits

In this section, I turn to a non-movement approach proposed for split phrases by Fanselow (1988), who maintained that German splits like (14a) are derived through merger of two independent noun phrases, the first of which contains the noun, while the second involves N-ellipsis, which somehow necessitates the *es*-form of the determiner (the latter is not possible if the determiner is adjacent to the noun, cf. (14b); see also fn. 5). Crucially, for Fanselow the split in (14a) involves no movement whatsoever (note that the relevant German splits are of the inverted type; I return to these splits in more detail in section 4.2 below).

- (14) a. [_{NP} Geld] hat er [_{NP} kein*(es) Ø_N].
 money has he none
 ‘As for money, he doesn’t have any.’
 b. Er hat kein(*-es) Geld.
 he has none money
 ‘He has no money.’

Although this analysis may be perfectly appropriate for German splits, I maintain that it is not right for CR. The crucial s to support this claim involves splits with numerals. As shown in (15), there are two slightly but significantly different constructions in CR where the numeral is split apart from its noun: the example in (15a) involves a true split, like all the others considered in this paper, whereas (15b) is an example of the so-called “genitive themes” (Franks & House 1982), cf. also House (1982) and Pereltsvaig (1998).

- (15) a. **Mašiny** pod”jexalo **dve** k našemu pod”jezdu.
 car_{GEN/PAUC} came two to our porch
 ‘Two cars came to our porch.’ [RRR’73: 389]
 b. **Mašin** pod”exalo k našemu pod”jezdu **dve**.
 car_{GEN/PL} came to our porch two
 ‘Two cars came to our porch.’

The crucial difference between these two constructions is in the form of the genitive noun: in true splits in (15a) the noun appears in the **paucal** genitive form (required by the numeral *dve* ‘two’), whereas the “genitive theme” in (15b) appears in the **plural** genitive form. In Pereltsvaig (1998) it is argued that the latter construction is derived via independent base-generation of two noun phrases, the first one of which has a null quantifier responsible for the plural genitive form *mašin* ‘cars’ and the second one of which contains N-ellipsis, as shown in (16).

- (16) [NP Q-Ø **mašin**] pod’jexalo k našemu po’jezdu [**dve** N-Ø].
 car_{GEN/PL} came to our porch two

In contrast, the presence of the paucal genitive in (15a) indicates that the two parts of the split are merged together and then split apart by some form of movement. Thus, we reach a paradox: split phrases in CR show some signs of movement (cf. (15)-(16)) and also some signs of non-movement (see section 2 above). How can this paradox be resolved?

4 Proposal: Movement + Partial Interpretation of Copies

My proposal (developing ideas of Fanselow & Ćavar 2002, henceforth F&C) resolves the abovementioned paradox in the following way: split phrases are derived through movement, yet it is not movement **out of** the split phrase, but movement **of the whole** split phrase. Since no movement out of the split phrase is postulated, neither part A nor part B needs to be a constituent, which has been shown to be the case in (2) and (9), respectively. Furthermore, the proposed analysis accounts easily for the fact that noun phrases and PPs that are themselves islands can be split, as in (3b)-(5). In addition, since the whole (argumental) phrase moves, we expect no sensitivity to weak islands, as is shown to be the case in (7). Yet, I depart crucially from F&C in assuming that [topic] and [focus] are not uninterpretable features that necessarily drive movement (cf. Pereltsvaig 2004 and the discussion below); instead, I take them to be interpretable features. Due to this modification of F&C’s analysis, for me the unmarked order is one where part B is in-situ rather than fronted, which is the case in CR, as discussed in connection with (11)-(13) above.

4.1 Splitting as “Feature-Driven Movement Plus”

The first important component of my proposal is that split phrases are derived through some sort of feature-driven movement of the whole XP to be split. Under the copy-theory of movement, movement creates multiple copies; the actual “splitting” derives from partial interpretation of copies, whereby part A of the split is interpreted by the PF interface in the higher copy, while part B is interpreted by PF in the lower copy:

(17) a. Step 1 (feature-driven movement, here scrambling):

klubničnogo varenja možno kupit' **klubničnogo varenja**
 strawberry_{ADJ} jam possible to-buy strawberry_{ADJ} jam

b. Step 2 (PF-interpretation):

klubničnogo varenja možno kupit' **klubničnogo varenja**
 strawberry_{ADJ} jam possible to-buy strawberry_{ADJ} jam

In other words, splitting piggy-backs on some kind of feature-driven movement. But what kind of feature-driven movement can create splits in CR? It can be wh-movement (18a), “focus” movement in *li*-questions (18b), or scrambling, as in (17).

(18) a. **Kakoe delo** nam ~~**kakoe delo**~~ do čužoj gluposti?
 which to-us business to someone-else's foolishness
 ‘What do we care about someone else's foolishness?’ [CVK]

b. **Kreščennyj čelovek** li ty ~~**kreščennyj čelovek**~~?
 baptized Q you man
 ‘Are you a baptized man?’ [PVK]

For the rest of this paper, I will focus on splits created via scrambling. The next question is what feature drives movement in scrambling. As mentioned above, I do not take [topic] and [focus] to be uninterpretable features that necessarily drive movement. One reason for this is that focus in CR does not always trigger movement; an alternative way to express focus is purely through intonation. Therefore, I propose that scrambling is triggered by the feature [contrastive], which is also responsible for distinguishing Contrastive (or Link-) Topic from a regular topic (i.e., old information) and for distinguishing Contrastive Focus from a regular (i.e., new information) Focus.

Note that both scrambling and splitting come in two types: one where the scrambled or (part A of the) split phrase is a Contrastive Topic and the other where it is a Contrastive Focus.

(19) Contrastive Topic:

Malen'kix u nas net...
small_{GEN} to us there-is-not

a. Scrambling:

...a **srednie konverty** u nas est'!
but medium-sized envelopes to us there-is
'We don't have any small ones, but we do have some medium-sized envelopes.'

b. Splitting [RG II: 209]:

...a **srednie** u nas est' **konverty!**
but medium-sized to us there-is envelopes

(20) Contrastive Focus (the following sentence discusses writing Turkish with the Latin script):

a. Scrambling:

On nas zastavljal izučat' **arabskij šrift** nepremenno.
he us forced to-study Arabic script necessarily

b. Splitting [RRR'70: 80]:

On nas zastavljal izučat' **arabskij** nepremenno **šrift**.
he us forced to-study Arabic necessarily script
'He made us necessarily study the ARABIC script.'

In addition to being able to express both Contrastive Topic and Contrastive Focus, both scrambling and splitting are associated with the same intonation patterns: Contrastive Topic and Contrastive Focus, in (19) and (20) respectively, have distinct intonation patterns associated with them (regardless of whether scrambling or splitting is used), which leads me to conclude that [topic] and [focus] are interpretable at PF (as well as at the interface where information structure is established).

In the case of Contrastive Focus, the intonation pattern is the so-called IK-2 (cf. AG 1960: 98, 107, 109-111). This pattern consists of a falling peak on the stressed syllable of the contrastively focused element and strengthened lexical stress (a rising peak is marked by an acute accent mark and a falling peak by a grave accent mark). Crucially, the same intonation contour is found in both scrambling and splitting:

- (21) a. **malinovogo varenja** ona mne prislala! [a ne klubničnogo]
 raspberry_{ADJ} jam she to-me sent and not strawberry_{ADJ}
 b. **malinovogo** ona mne prislala **varenja!** [a ne klubničnogo]
 raspberry_{ADJ} she to-me sent jam and not strawberry_{ADJ}

In the case of Contrastive Topic, the intonation pattern is so-called IK-5 (cf. AG 1960: 98, 107, 115-118), which consists of two peaks, a rising and a falling one, with a high plateau between the two. Again, both scrambling and splitting are associated with the same intonation contour:

- (22) a. **malinovogo varenja** ona mnè prislala! [a klubničnogo Sàše]
 raspberry_{ADJ} jam she to-me sent and strawberry_{ADJ} to-Sasha
 b. **malinovogo** ona mnè prislala **varenja!** [a klubničnogo Sàše]
 raspberry_{ADJ} she to-me sent jam and strawberry_{ADJ} to-Sasha

In addition to intonation, there are other similarities between scrambling and splitting, which make me conclude that the latter is derived from the former. First, the same categories can undergo both scrambling and splitting, including structurally case-marked noun phrases, e.g., (22), inherently case-marked noun phrases (23a), and PPs (23b).

- (23) a. My na knižečku **tol'ko 15-go** (čisla) budem začisljat' (**čisla**).
 we to savings-book only 15th_{GEN} date_{GEN} we-will transfer date_{GEN}
 'We'll now transfer funds to savings accounts only on the 15th.'
 [splitting version from L'76: 198]
 b. Net, mne **na Kazanskij** (vokzal) **nado** (**vokzal**).
 No to-me to Kazansky_{ACC} train-station_{ACC} need train-station_{ACC}
 'No, it is the Kazansky TRAIN-STATION that I need (not street).'

Second, the landing sites for scrambled phrases and (part A of) splits are the same (cf. Table 1). This includes long-distance splits, claimed to be ungrammatical by Sekerina (1997: 186), but judged acceptable by my consultants and illustrated by attested examples from my corpus, (24).

Table 1: The distribution of scrambling and splitting landing sites

SCRAMBLING	SPLIT PHRASES
Ja xoču čtoby on novuju mašinu kupil. I want that he new car bought	Ja xoču čtoby on novuju kupil mašinu . I want that he new bought car
Ja xoču čtoby novuju mašinu on kupil. I want that new car he bought	Ja xoču čtoby novuju on kupil mašinu . I want that new he bought car
Ja xoču novuju mašinu čtoby on kupil. I want new car that he bought	Ja xoču novuju čtoby on kupil mašinu . I want new that he bought car
Ja novuju mašinu xoču čtoby on kupil. I new car want that he bought	Ja novuju xoču čtoby on kupil mašinu . I new want that he bought car
Novuju mašinu ja xoču čtoby on kupil. new car I want that he bought	Novuju ja xoču čtoby on kupil mašinu . new I want that he bought car

- (24) **Gorjačego** ja **xoču** **čaju** vypit'
hot_{acc} I_{nom} want tea_{acc} to-drink
'It is HOT tea that I want to drink.' [RRR'73: 387]

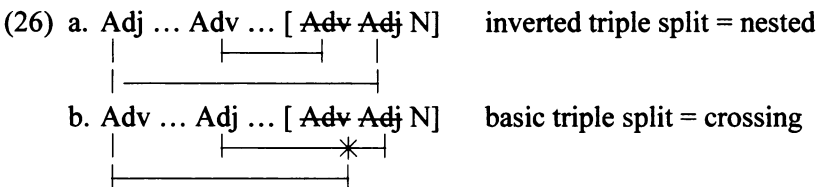
4.2 Inverted Splits

So far, I have been concerned for the most part with basic splits (or “pull splits” in F&C’s terminology). However, as mentioned briefly in connection with (14), there exists another type of split – inverted split, where the parts of a phrase are not only split apart but are also inverted relative to the unmarked order in the adjacent structure. As with basic splits, inverted splits may involve noun phrases (27a-b), PPs (27d), and APs (27c); both argument and predicate phrases alike can be split.

- (25) a. **Vot stixí** by nam **xoròšie o porjadke!**
behold poems COND to-us good about order
‘If we could only have good poems about order!’ [NSBL]
- b. **Salàtik** by **ovoščnoj!**
salad COND vegetable_{ADJ}
‘It would be nice to have some (vegetable) SALAD!’ [VDD]
- c. **Slàbye** oni **očen’!**
weak they very
‘They [i.e., men] are very WEAK!’ [CVK]
- d. U nego lebed’ **na kladbišče** tam **na Novodevičjem** byl.
to him swan on cemetery there on Novodevichie was
‘He had a swan at the Novodevichye cemetery’ [RRR'73: 388]

Similarly to basic splits, inverted splits can express Contrastive Topic (with IK-5; cf. (25a)) or Contrastive Focus (with IK-2; cf. (25b-c)). Moreover, the landing sites for inverted splits are exactly the same as with scrambling or basic splits; both basic and inverted splits may contain more than just two parts (see (9c) above for an example of an inverted three-part split). Finally, as with basic splits, inverted splits may feature non-constituents as either part A or part B; cf. (25a). All of that suggests that both basic and inverted splits should receive a unified analysis. In fact, the analysis proposed here is a unified analysis: whether a basic or an inverted split results in each given case depends on what the exact distribution of contrastive elements is in each specific instance.

On the other hand, the existence of inverted splits, especially three-part inverted splits like (9c), is a problem for both the DE analysis and F&C's analysis. First consider how the DE analysis deals with such splits. There are two ways in which the DE analysis can derive triple splits: either by extracting part A and part B separately leaving part C behind, or by extracting part B out of part C and then extracting part A out of part B. The latter solution is problematic in view of the general observation that extracted elements themselves become islands for further extraction. Yet, the former solution is problematic as well because if parts A and B are extracted separately, the existence of inverted splits shows that nested paths are allowed (26a), alongside crossing paths necessary for deriving basic splits (26b); yet, the crossing and nested path scenarios normally would not be expected to be interchangeable this way.



F&C acknowledge that the existence of both inverted and basic splits is a problem for their analysis as well. For them, inverted splits are a result of the application of the Minimal Link Condition (MLC), whereas basic splits are not in accord with MLC; instead, they are derived through Parallel Movement Constraint (PMC), which preserves c-command relations pre- and post-movement. So why is it that in some cases the MLC may be suspended in favor of the PMC? According to F&C, basic

splits avoid violation of the MLC because the two parts of the split have features that are not “identical from the perspective of the MLC”. This solution appears to be plausible for German, where basic splits must involve a *wh*-phrase, but seems rather ad hoc for Slavic, for which F&C claim that “topic and focus features may optionally be treated as distinct”. Since [topic] and [focus] features are what they are, it seems hardly plausible that they may alternate between being identical and being distinct from the point of view of the MLC.

The crucial modification that distinguishes the analysis proposed in this paper from that of F&C is that [topic]/[focus] features do not drive movement; therefore, part B need not move at all, and if it does, it need not appear in a position where the split phrase checks any relevant features. This configuration is reminiscent of long-distance *wh*-movement where the intermediate C° may be [-*wh*], in which case the *wh*-phrase does not check any [wh] feature against the intermediate C° , but lands there simply to obey Subjacency. To sum up, the existence of both inverted and basic splits poses problems for both the DE analysis and F&C’s analysis, but not for the analysis proposed in this paper.

4.3 *N-Ellipsis and Splitting*

So far, I have argued that splits are derived through feature-driven movement, such as movement in *li*-questions, *wh*-movement, or scrambling (although as noted at the end of the previous subsection, not every step need be feature-driven). Yet, movement per se is not enough to create splits. The other element necessary is the possibility of partial interpretation of copies. The idea that a given interface may choose to interpret parts of different copies rather than one whole copy is not new. Thus, sentences like (27) indicate that part of the *wh*-phrase must be interpreted in the higher copy and the other one in the lower copy (assuming that both variable- and anaphor-binding are done at LF).

(27) [Which photos of himself] does Joe like [~~which~~ photos of himself]?

What I propose here (following F&C) is that the PF interface too may interpret only a part of each copy. Are there other indications that PF may interpret parts of copies? I maintain that *N*-ellipsis is a construction indicative of the possibility of partial interpretation of noun phrase copies

at PF.² Identifying N-ellipsis as a result of partial interpretation of copies at PF and thus as a correlate of splitting means that typologically only languages that allow both scrambling and N-ellipsis will allow splits (Ntelitheos 2004 discusses the correlation between N-ellipsis and splits; F&C acknowledge its existence but admit that they fail to account for it).

Table 2. Splitting is dependent on both scrambling and N-ellipsis

	N-ellipsis	no N-ellipsis
scrambling	Russian, Old Icelandic	Japanese
no scrambling	Modern Icelandic	English

For example, while Old Icelandic had both scrambling and split phrases (and as far as we can determine, N-ellipsis as well), Modern Icelandic lost scrambling and as a result it lost splitting as well (cf. Platzack 2005); note that Object Shift in Modern Icelandic is distinct from Scrambling; cf. Thráinsson (2001). On the other hand, Japanese has scrambling (cf. Saito 1992, Grewendorf and Sabel 1999, *inter alia*) but not N-ellipsis, and as a result it does not have split phrases. English is the ultimate case of a language without splits (**DELICIOUS John cooked borsch*): it allows neither scrambling (**John this delicious borsch cooked*), nor N-ellipsis (**Mary cooked a disgusting borsch and John – a delicious*).

4.4 Splitting and Case

Is the availability of both scrambling and N-ellipsis the only prerequisite for splitting? It appears that it is not so. For instance, Olga Mišeska Tomić (p.c.) pointed out to me that Bulgarian has both scrambling and N-ellipsis,

² N-ellipsis is not to be confused with outcomes of A-to-N conversion, a process very common in CR: N-ellipsis, as in (i), but not A-to-N conversion, as in (ii), is context-dependent; cf. Hooker (1984/1999).

(i) [in a shower]:

O, *těplen'kaja* Ø pošla!
 Oh, warm is-coming
 'Oh, warm water is coming!' [IS]

(ii) *Šampanskoe* po utram p'jut tol'ko aristokraty ili degeneraty.
 champagne_{ADJ/N} on mornings drink only aristocrats or degenerates

'Only aristocrats and degenerates drink champagne in the morning.' [BR]

but lacks splitting (cf. also Bošković 2005).³ If this is so, what does Bulgarian lack that prevents it from having splits? My tentative answer is overt case marking. Indeed, Bulgarian, as well as English and Japanese, lack overt case marking on all elements of their noun phrases. Thus, the availability of overt case marking throughout the noun phrase may be a prerequisite for N-ellipsis.⁴ Further support this idea comes from Serbo-Croatian data involving complex proper names, cited in Bošković (2005: 14) and Franks (1998). Corresponding CR examples are given below: although the first part of a complex foreign proper name need not be overtly case-marked and can appear in the default nominative instead (28a), in order for a split proper name to be grammatical, both parts of the name must be overtly case-marked (28b).

- (28) a. {Džejms / Džejmsa} Bonda ona obožuet.
 James_{NOM} / James_{ACC} Bond_{ACC} she adores
 b. {*Džejms / ✓Džejmsa} ona obožuet Bonda.
 James_{NOM} / James_{ACC} she adores Bond_{ACC}

5 Summary and Issues for Further Research

In this paper, I have examined the distribution and internal properties of split phrases in CR. One result of this study is that several restrictions previously noted in the literature have been shown to not apply in CR; moreover, I have considered several previous analyses and argued that they are too restrictive to account for CR. Instead, I proposed a less restrictive analysis based on F&C's idea that splits result from feature-driven movement that creates multiple copies and partial interpretation of such copies at PF. Space limitations prevent me from a more detailed investigation of restrictions that do apply to splits in CR (e.g., it has been observed that a PP-split must have the P^o pronounced in the higher copy, whether or not P-doubling applies to pronounce the lower copy of the

³ Since two of my Bulgarian informants accepted certain instances of splits, the data requires further investigation.

⁴ It is possible that the relevant requirement is more general, in that N-ellipsis requires "richer" morphological form, but not necessarily overt case marking. Thus, the German facts in (14) above may be related. See Ntelitheos (2004) for further discussion.

preposition as well). I leave the discussion of these observations for further research.

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Appendix: Sources of examples

- BR: Briljantovaja ruka (The Diamond Arm), 1968
- CVK: Daria Dontsova. *Chudesa v kastrjul'ke*. 2002
- IS: Ironija sud'by (The Irony of Fate), 1975
- L'76: Lapteva, O. A. 1976. *Russkij razgovornyj syntaksis*. Moscow: Nauka.
- L'99: Lapteva, O. A. 1999. *Živaja russkaja reč' s teleèkrana*. 2nd ed. Moscow.
- MSNV: Moskva slezam ne verit (Moscow Does Not Believe in Tears), 1979
- MVIN: Mesto vstreči izmenit' nel'zja (Can't Change the Meeting Place), 1979
- NSBL: Ne streljajte belyx lebedej (Don't shoot white swans), 1980
- PVK: Daria Dontsova. *Prividenie v krossovkax*. 2002
- RG II: *Russkaja grammatika*. 1980. Academy of sciences of USSR. Vol. II
- RRR'70: *Russkaja razgovornaja reč*. 1970. Izdatel'stvo Saratovskogo universiteta.
- RRR'73: *Russkaja razgovornaja reč*. 1973. Academy of sciences of USSR.
- SRR'74: Sirotinina, O. B. 1974. *Sovremennaja razgovornaja reč' i ee osobennosti*. Moscow: Prosveschenie.
- VDD: Vokzal dlja dvoix (A Railway Station for Two), 1982

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The Syllable Is Not a Valid Constituent: Evidence from Two Serbo-Croatian Language Games

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The purpose of this article is to show how the functioning of two Serbo-Croatian language games, *Šatrovački* and *Utrovački*, provides insight into the architecture of phonological representations.

In section 2, I start by briefly presenting language games: what are they? Why are they of any interest to phonology? Then, the first language game addressed in this paper, i.e. *Šatrovački*, is introduced. After having given an account of its basic mechanism (section 3.1) and provided some illustration (section 3.2), I show why it calls for the existence of empty nuclei after word-final consonants (cf. section 3.5). Finally, the second language game presented here, i.e. *Utrovački*, is dealt with. After having introduced its general mechanism (section 4.1), I show that it questions the validity of the syllabic node as a syllabic constituent (section 4.3). Hence the data at hand cannot be accounted for in a classical syllabic framework. After looking back at data from *Šatrovački* (section 5), I show how a shift in perspective may offer a solution (section 6).

2 Language Games

2.1 A Brief Definition

Language games are alternate linguistic systems; they are found in nearly every human language. Whether they are called ‘language games’, ‘ludlings’ (from Latin *ludus* ‘game’ and *lingua* ‘language’), ‘secret language’ or ‘speech disguise’, they boil down to the same reality: they are characterized by a relatively restricted sociolinguistic function, a small speaker population and an uncertain acquisitional process. In terms of formal structure, the morpho-phonological operations present in language games prove to be systematic and principle-governed and differ from

ordinary languages in a quantitative way (number of operations) rather than in a qualitative way (type of mechanisms¹). Thus language games, in other words, have ‘mini-grammars’ (cf. McCarthy 1986, Bagemihl 1995).

2.2 *Why is Their Study of Interest?*

The major interest lies here: speakers of language games consciously (or half-consciously) manipulate abstract units such as syllables when they turn a standard language input into the corresponding language game output. This confirms their access to more abstract levels of representation than the phonetic level (cf. McCarthy 1986). Moreover, language games guarantee the synchronic and immediate nature of morpho-phonological operations. Such data as opposed to ‘ordinary’ phonological data do not raise the classical problem of the lexical and diachronic status of the item under observation: here everything is the result of an online cognitive operation (at least when a speaker builds a word that he never heard before). This state of affairs, the online construction, is of great interest when one wants to evaluate the status of abstract objects such as the syllable: speakers manipulate abstract objects; we can in return analyse their production and have a chance to observe what object was actually manipulated.

3 Šatrovački

3.1 *Šatrovački: A Sketch*

Šatrovački is a Serbo-Croatian language game. It is mainly spoken in the area of Belgrade (Serbia) by an urban/suburban youth. Its basic mechanism is reversal and, therefore, it is close to French verlan (see among others Plénat 1992). We observe for those two languages:

- (1) French verlan: *mater* [mate] ‘to stare at (slang)’ > *téma* [tema], *herbe* [ɛʁb] ‘grass’ > *beuer* [bœʁ], *cigarette* [sigʁɛt] ‘cigarette’ > *garetsi* [gʁɛtsi].

¹ Among other mechanisms we do observe: reduplication, infixing/affixing, templatic activity, size constraints and metathesis.

- (2) Šatrovački: *piće* [pítʃe] ‘drink’ > *ćepi* [tʃepi], *jezivo* [jezivo] ‘horrible’ > *zivoje* [zivoje], *hleb* [xleb] ‘bread’ > *bähle* [bæxle].

The data in (2) immediately reveal the mechanism at stake in Šatrovački: syllables are reversed. Thus, an input with the shape $C_1V_1C_2V_2$ will simply turn into an output $C_2V_2C_1V_1$, e.g. *piće* [pítʃe] ‘drink’ > *ćepi* [tʃepi]. This is everything but surprising in the typology of language games; other languages, not genetically related to French and Serbo-Croatian such as Luganda (Niger-Congo) or Wolof (Niger-Congo)² show similar facts:

- (3) Luganda: [kimuli] ‘flower’ > [limuki], [mukono] ‘arm’ > [nokomu], [mubinikolo] ‘chimney’ > [lokonibimu]
- (4) Wolof: [sama] ‘my’ > [masa], [doom] ‘child’ > [mædoos], [yobbu ko] ‘bring it’ > [buko yoo]

All this clearly suggests that reversal is a type of a cross-linguistically well attested mechanism in the language game zoo. This last point is of course of interest in a typological perspective.

3.2 Šatrovački Data: An Overview

The data that are presented here come from field work with “native” speakers of Šatrovački that I have conducted in summer 2004.³ The corpus collected contains 194 words and is available as a whole in Rizzolo (2004).

There are three types of Serbo-Croatian inputs to be considered: mono-, bi- and trisyllabic. The distribution in the corpus is the following: monosyllabic inputs: 23, bisyllabic inputs: 152, trisyllabic inputs: 19.

² Data come from Roca (1994: 11) and Kenstowicz (1994: 447).

³ Data were collected with the help of two Serbo-Croatian speakers. One of them is a thirty year old man who works as an engineer in Germany; the other one is a twenty-eight year old woman who lives in France and who was trained as a linguist.

(5) Šatrovački: an overview

Šatrovački	standard Serbo-Croatian	gloss
	<i>monosyllables</i>	
cəvi	vic	joke
pəstri	strip	comic strip
təcve	cvet	flower
	<i>bisyllables</i>	
ćepi	piće	drink
fićka	kafić	café
šimpu	pušim	I smoke
	<i>trisyllables</i>	
rijamu	murija	police (slang)
šenjepu	pušenje	smoking
vanjedu	duvanje	smoking (slang)

Note on the spelling: c = [ts], ć = [tɕ], dž = [dʒ], č = [tʃ], š = [ʃ], ž = [ʒ].

Table (5) shows that nothing happens to bi- and trisyllabic inputs: they simply are reversed and remain bi- and trisyllabic. But it is self-evident that something happens to monosyllabic inputs: their outputs are systematically bisyllabic. One would like to understand a) for which reason monosyllabic items change in size and b) how it is achieved.⁴

3.3 Monosyllabic Words: A Close-Up

All monosyllables contained in the corpus (20 items) are displayed in the following table.⁵

⁴ What happens to monosyllabic inputs is, of course, only one of the different interesting points illustrated by Šatrovački. Cf. Rizzolo (2004) for more material.

⁵ The corpus contains 23 monosyllabic items altogether. Three are missing hereafter *smor* 'boredom (slang)', *stvar* 'thing' and *džoint* 'joint (slang)' because they are not directly relevant for the purpose of the following discussion. The items *smor* and *stvar*, when reversed do not display a schwa, i.e. we do not observe *rəsmo* and *rəstva* but *rsmo* and *rstva* with a syllabic [r]. I show in Rizzolo (2004) that, far from being counter-examples, these two items are in fact evidence for the analysis that is about to be developed in section 3.5. The item

(6) Monosyllabic words

Šatrovački	standard Serbo-Croatian	gloss
bəhle	hleb	bread
čəbe	Beč	Vienna
cəvi	vic	joke
dəgra	grad	town
dəle	led	ice
dəra	rad	effect (slang)
dəspi	spid	speed (slang)
ftəli	lift	lift
gəsne	sneg	snow
kədžo	džok	joint (slang)
kəzna	znak	sign
pədo	dop	dope
pəglu	glup	stupid, adj.
pəstri	strip	comic strip
pətri	trip	trip (slang)
səbu	bus	bus
səpa	pas	dog
təcve	cvet	flower
žəmu	muž	husband
žəno	nož	knife

It is clear in table (6) that the bisyllabic output of CVC items is always achieved through the appearance of a schwa, e.g. hleb *bread* > bəhle, lift *lift* > ftəli, cvet *flower* > təcve. This piece of information is

džoint being the only one in the whole corpus displaying a glide, *džoint* [dʒojnt] has a specific treatment: its output [jintdʒo] displays an [i] epenthesis (Cf. Rizzolo 2004 for an analysis).

indeed a striking fact for *the inserted schwa does not belong to the phonemic inventory* of standard Serbo-Croatian. Knowing this, a natural question arises: where does this schwa come from and what is the purpose of this insertion? Answering this question is the goal of the next section.

3.4 Schwa Insertion: Different Candidate Analyses

Before trying to figure out the reason for the schwa insertion, it is worth finding out its origin. Schwa insertion may be thought of in different ways. Two classical positions may be adopted: a lexical one and an epenthetic one. Let us explore the first of these two hypotheses, i.e. the lexical hypothesis: in such a position, monosyllabic words that end with a consonant on the surface underlyingly end with a schwa. In such a perspective, a word like *Beč* [betʃ̩] ‘Vienna’ would have the following representation:

(7) *Beč* /betʃ̩ə / [betʃ̩]

C ₁	V ₁	C ₂	V ₂
b	ε	tʃ̩	ə

The final schwa would only be pronounced when its presence is required, i.e. during the reversal process. Thus we would observe:

(8) A lexicalist solution: schwa is underlyingly present after word-final consonants.

/betʃ̩ə /	[betʃ̩]	[tʃ̩əbε]					
C ₁	V ₁	C ₂	V ₂	C ₂	V ₂	C ₁	V ₁
b	ε	tʃ̩	ə	tʃ̩	ə	b	ε

Under (8) schwa is already present in the S-C input but not pronounced since not required. When the item is reversed its presence is now required: the schwa surfaces to break up initial consonant clusters such as **#čb*, **#dg* or **#pd*, which are systematically produced by reversal, i.e. C₁VC₂ > C₂C₁V. Indeed, if schwa was not pronounced the

result of reversal for an input such as *Beč* [betʃ] would be *[tʃbε]. The initial cluster *[tʃb] which results from reversal does not exist in Serbo-Croatian and may thus be assumed to be impossible. Thus the schwa being already available underlyingly simply becomes audible to avoid the creation of clusters which are ruled out in S-C.

However this solution is rather unlikely since schwa cannot be present in the lexicon: it does not exist as a S-C phoneme. It would be strange indeed to propose an underlying schwa for the sole purpose of giving an account for 20 words!

If the lexical hypothesis is disqualified there still remains another classical proposal to examine: the epenthetic solution. One might suppose that the schwa observed in the Šatrovački forms represents an epenthesis of syllabic material (a slot) and melody. In such an approach the schwa would be inserted, again, to break up initial consonant clusters such as *#čb, *#dg or *#pd, which are systematically produced by reversal, i.e. $C_1VC_2 > C_2C_1V$. This solution is illustrated under (9):

(9) Epenthetic solution: schwa is inserted after reversal to break up illicit initial consonant clusters resulting from this process

a. schwa is inserted between C_2 and C_1 b. schwa is inserted before C_2
 /betʃ/ > *[tʃbε] / > [tʃəbε] /betʃ/ > *[tʃbε] / > [ətʃbε]

1) C_1 V C_2 >	2) C_2 C_1 V	1) C_1 V C_2 >	2) C_2 C_1 V
b ε tʃ	tʃ b ε	b ε tʃ	tʃ b ε

3) C_2 V C_1 V	3) V C_2 C_1 V
tʃ ə b ε	ə tʃ b ε

There are two logical ways for the schwa epenthesis as depicted under (9). Either it is inserted between C_2 and C_1 or it is inserted before C_2 . Let us consider the first possibility. The reversal of the item *Beč* [betʃ] with the shape C_1VC_2 gives birth to the output *[tʃbε]. The initial cluster

resulting from the reversal, e.g. *#[tʃb] does not exist in Serbo-Croatian as we already know. In order to break up this illicit cluster there is an epenthesis of the vowel schwa between the consonants C₂ and C₁. The output is then [tʃəbɛ], the attested one. In the second case the strategy applied is similar; the only difference lies in the location of the epenthesis: this time schwa settles before C₂ and C₁. The resulting output [ətʃbɛ] has done away with the illicit cluster as well and does not violate any constraint of S-C. However it is simply not attested. This double possibility for the realisation of schwa is the main drawback of the epenthetic solution: it fails to account for the fact that the insertion always occurs in the same location. In other words this approach cannot predict that the result of reversal for monosyllabic items will always have the shape C₂əC₁V₁ as in Beč > čəbe and never əC₂C₁V₁ as in the non-attested Beč > *əčbe.

Still we can look further into the epenthetic direction and try to accommodate this hypothesis in a way that it can fully predict the location of schwa insertion. Doing so leads us to associate this approach to a typological reasoning of the kind that OT (Optimality Theory) embodies in the constraints ONSET and NOCODA: CVCV is much more unmarked than VCCV since, unlike VCCV which violates both constraints, it does not incur a violation of either constraint.

In this case, the representation under (9b) would be simply excluded by the two mentioned constraints.

The OT-based epenthetic approach seems to be a good candidate. Serbo-Croatian has indeed restrictions on initial consonant clusters: *#dg or *# čb, for example, do not occur and may thus be assumed to be ill-formed. Šatrovački also has restrictions on initial clusters: they are systematically broken up. If schwa were not inserted, we would observe, among others, the following monster clusters: *bhl, čb, dgr, dsp, fl, gsn, kdž, kzn, pgl, pstr, ptr*. These are absolutely ruled out in S-C. Clearly the upgraded epenthetic approach looks like an ideal candidate: it explains how the schwa is inserted and can predict where it is inserted. Moreover this solution gives an answer to the question why a schwa is inserted: in order to break up illicit initial clusters resulting from reversal.

But if all this is true and if this approach is the right one, how to explain that perfectly licit Serbo-Croatian clusters such as, #sp, #cv, #dr, e.g. *sposoban* 'capable', *spasiti* 'to save', *spor* 'slow', *cvekla* 'beetroot' *cvileti*

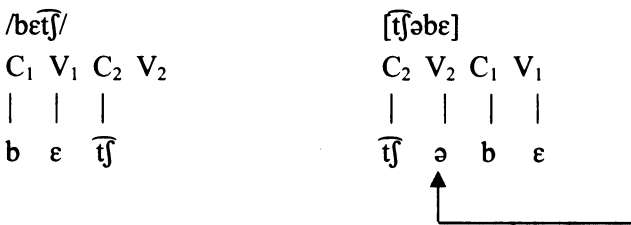
'to moan', *cvet* 'flower', *drag* 'dear', *drama* 'drama', *dremati* 'to nap' are also broken up in Šatrovački: *pas* 'dog' > *səpa*, **spa*, *vic* 'joke' > *cəvi*, **cvi*, *rad* 'work' > *dəra*, **dra*. Therefore, I conclude that the reason for schwa insertion is not to be sought in constraints on initial clusters. Thus the epenthetic approach cannot be the correct solution to the problem.

3.5 Schwa Insertion: The FEN Solution

We have seen that the lexical and epenthetic hypotheses fail to solve the problem at stake here.

I claim that the solution lies in the acknowledgement of final empty nuclei (FEN). Among other voices, Government Phonology (e.g., Kaye 1990) holds that consonant-final words actually end in an empty nucleus.⁶ This nucleus can remain mute when occurring in word-final position; it is licensed to do so.⁷ But once it finds itself in a morpheme-internal situation it cannot remain mute gratuitously, it has to be taken care of: in the case at hand, through the vocalization of the empty nucleus.

(10) The FEN solution



Under (10), the nucleus V_2 can remain mute since it is final and thus licensed to do so. But after reversal this nucleus is now internal and must be expressed. Thus the schwa observed on the surface in Šatrovački is nothing but the spell-out of the lexical final empty nucleus, which has

⁶ Outside of Government Phonology, Dell (1995) and Oostendorp (2002) for example work with final empty nuclei.

⁷ This is a parameter: some languages do license FEN, some others do not. Languages which display final codas do license FEN; languages without final codas do not. Cf. Kaye (1990) for questions related to this topic.

been moved from a final to an internal location. This way there is no need to call on markedness considerations to account for the fact that schwa is realized always in the same location: the FEN hypothesis accounts for that. Moreover, following this proposal allows unveiling the mysterious choice of schwa, i.e. a phoneme which is not present in the phonemic inventory of S-C in extenso: Kaye (1990: 313) proposes that an empty nucleus, when segmentally expressed, is realized as schwa.⁸ Clearly this proposal is the ideal candidate: no extra material (epenthesis) is needed, no extra constraint (OT upgrade) is needed and the choice of schwa finds a natural explanation.

3.6 *The FEN Solution, Yes But...*

The FEN solution seems to be the correct way to explain the mechanism at stake here, i.e. to account for the presence of schwa in an unchanging position. Still, the compulsory expression of the empty nucleus in *morpheme-internal situation* may not be the real reason for the appearance of schwa.

When we consider the whole corpus, the distribution of S-C inputs according to the number of syllables is somehow striking. There is an overwhelming majority of bisyllabic inputs: 152 out of 194. Šatrovački, which is based on syllable reversal, therefore seems best designed for inputs with two syllables: '*we need to be (at least) two in order to play*'. Monosyllabic inputs clearly have just one syllable; they are not big enough. If those items want to have a chance to become good candidates for reversal, they have to increase in size in order to satisfy the minimal size constraint. This noticeable size problem is nothing but a wrong problem since the FEN hypothesis holds that monosyllabic items are bisyllabic underlyingly.

In conclusion, everything is the same, the FEN hypothesis still holds true. The difference lies in the fact that the motivation for the vocalization of the empty nucleus is not anymore its morpheme-internal position but a constraint on the minimal size of a Šatrovački output. In other words, minimal size is the trigger and FEN is the means.

⁸ The author proposes that the unmarked realization of an empty nucleus is a high schwa, i.e. [i]. The mid schwa observed here is nothing but a coloured version of the latter.

Moreover, I said above that an empty nucleus in internal position has to be taken care of and that this is achieved through vocalization. Giving a segmental expression to an empty nucleus is not the only way to take care of it in a morpheme-internal empty nucleus: it can be properly governed by a following nucleus.⁹ In table (10) the empty nucleus V_2 in a morpheme-internal position could be properly governed by the following nucleus V_1 . Thus it could remain mute. This implies that the FEN solution, without the minimal size argument, would not help solving the problem. Minimal size is the key to the vocalization of the empty site.

4 Utrovački

4.1 *Utrovački: A Sketch*

As for Šatrovački, this language game is mainly spoken in Belgrade. Utrovački is based on moving and inserting syllables, e.g. words like *radio* [radjo] ‘radio’, *kobila* [kobila] ‘mare’, *sunce* [suntse] ‘sun’ turn into *udio za ranje*, *ubila za konje*, *unce za sunje*.¹⁰

The following informal description can be given for this process: substitute [u] for the first syllable, add *za* [za] ‘for’ at the end of the word, then add the first syllable and attach to it the [-nje] suffix, e.g: *kobila* > *ubila* > *ubila za* > *ubila za konje*.

4.2 *Utrovački Data: An Overview*

The data presented here come from a work with “native” speakers of Utrovački conducted in April 2005 by a Serbo-Croatian native speaker. 116 entries have been collected. There are five types of Serbo-Croatian inputs to be considered: mono-, bi-, trisyllabic and inputs with four and five syllables.

The distribution is the following: monosyllabic inputs: 19, bisyllabic inputs: 55, trisyllabic inputs: 37, inputs with four syllables: 4, inputs with five syllables: 1.

⁹Cf. among others, Kaye, Lowenstamm & Vergnaud (1990), Kaye (1990), Scheer (2004) for questions related to Government Phonology.

¹⁰ The way outputs are represented, i.e. with graphic blanks, is nothing but my own decision to make them more easily parsable.

(11) Utrovački: an overview

Utrovački	standard Serbo-Croatian	gloss
	monosyllables	
uv za krnje	krv	blood
urt za sponje	sport	sport
ud za granje	grad	town
	bisyllables	
urta za kanje	karta	ticket
unka za crnje	crnka	brunette
urka za svinje	svirka	concert (slang)
	trisyllables	
ulica za minje	Milica	Milica
unktura za tinje	tinktura	tincture
urkoman	narkoman	drug addict
	four syllables	
untalone za panje	pantalone	trousers
ukadžija za drnje	drkadžija	asshole
udijator za ranje	radijator	radiator
	five syllables	
ubalebaroš za džanje	džabalebaroš	parasite (slang)

4.3 Which Unit Is Actually Moved?

Even a quick look at table 0 clearly shows that whatever the size of the input (1, 2, 3, 4 or 5 syllables), the unit that is manipulated in this language game is not a syllable in its classical conception. Let us have a closer look:

(12) What is moved

- a. Monosyllables: smor > ur za smonje => *moved* [smo]
- b. Bisyllables: svirka > urka za svinje, pivo > uvo za pinje => *moved* [svi], [pi]
- c. Trisyllables: sandale > undale za sanje, Milica > ulica za minje => *moved* [sa], [mi]
- d. Four syllables: pantalone > untalone za panje, radijator > udijator za ranje => *moved* [pa], [ra]
- e. Five syllables: džabalebaroš > ubalebaroš za džanje => *moved* [dža]

If we looked only at the words ‘pivo’, ‘Milica’, ‘radijator’ and ‘džabalebaroš’ we could conclude that the object that was moved is the (first) syllable. For example when ‘pivo’ turns into ‘uvo za pinje’, ‘pi’ undoubtedly represents the first syllable of the item ‘pivo’. The same holds true for the other three examples mentioned. But if we look at all the examples listed under (12) and consider the words ‘smor’, ‘svirka’, ‘sandale’ and ‘pantalone’ then we cannot conclude that the object that is moved is the first syllable of the S-C input. If this were the case we would observe for those words the following (unattested) outputs:

- (13) If the syllable were moved (what would be the first syllable in familiar theories is italicized)
- a. *smor* > *u za smornje, ur za smonje
 - b. *svirka* > *uka za svirnje, urka za svinje
 - c. *sandale* > *udale za sanje, undale za sanje
 - d. *pantalone* > *utalone za panje, untalone za panje

Clearly, as shown by the examples under (13), moving the first syllable, i.e. an onset plus a rhyme, leads to a wrong result. Doing so for an input like *svirka*, which is constituted of two syllables, *svir* and *ka*, and whose first syllable contains a complex onset ‘sv’ and a complex rhyme ‘ir’, where ‘i’ is the nucleus and ‘r’ the coda, would derive the unattested output ‘*uka za svirnje’, when the attested output is ‘urka za svinje’.

Moving the whole syllable leads to the wrong result. Which unit when moved does then lead to the right result? A closer look at the data reveals that whatever the shape of the first syllable, either CV or CVC, the only material that is moved is an Onset/Nucleus pair. This implies that the coda of the first syllable, in other words an internal coda, is never moved. One wants to know why this is so.

4.4 Why Do We Not Move a Syllable?

This question may at first sound somehow trivial or unmotivated. One could ask in the same way ‘why would we move a syllable?’. But the point is that there are reasons to be puzzled by such a state of affairs. First, the syllable is the constituent one refers to when one wants to describe casual phonological processes such as stress assignment, vocalic quantity or say ATRity. This same constituent was reintroduced in the phonological theories in the seventies because major processes (part of them the ones mentioned) could not receive a natural description. Thus

the syllable gained the status of a privileged phonological site and this common view still prevails today. In other words, the syllable is a fundamental tool of the phonological gear. How could phonological operations in a S-C language game suggest that the acclaimed syllable is not a patented actor? Second it seems that Šatrovački does manipulate syllables (*cf.* below, section 5) and so do French *verlan* and different other language games. In this direction Blevins (1995) writes: ‘Laycock’s (1972) survey of language games notes at least twenty cases where *the syllable is the target* of affixation, truncation, substitution or movement’. So the question raised above is not that unmotivated: we naturally expect the syllable to be the object moved in *Utrovački*. Clearly here the target is not a proper syllable but a syllable without its coda. Since in classical syllabic frameworks the coda is dominated by the rhyme and the rhyme is itself dominated by the syllable node, it should not be possible to move only the onset and the nucleus, to the exclusion of the coda. Thus if we are supporters of a classical syllabic theory we want to understand what can be the reason for this breaking of the rhyme in *Utrovački*. In order to make some progress, it will prove useful to look back at Šatrovački. This is the purpose of the next section.

5 A Look Back at Šatrovački

When I presented Šatrovački I said that an informal description of this language game can be: syllables are reversed. And indeed, a look back at table (5) shows that nothing refutes this statement. But a closer look at the same table reveals that there are no inputs with an internal coda.¹¹ Thus it could simply be the case that a crucial piece of information is lacking: we simply do not know how inputs with an internal coda behave.

I must admit, at this point, that the data under (5) are incomplete, on purpose, for expository reasons: items with an internal coda are not displayed. Still such items do exist: out of 152 bisyllabic inputs 36 display an internal coda.¹² Will this coda move with the syllable or not?

¹¹ There is one: ‘pečurka’. But the coda is in the wrong place: we would need it in the first syllable since this syllable and no other is going to move (*cf.* Rizzolo 2004 for an explanation).

¹² Trisyllables don’t display an internal coda in the first syllable (*cf.* the preceding footnote for the relevance of this fact).

The general shape of bisyllabic inputs with an internal coda is $C_1VC_2.C_3V$ with C_2 being a coda (no increasing sonority from C_2 to C_3). If the syllable is manipulated by Šatrovački we would expect the outputs to have the shape $C_3V.C_1VC_2$. This is never the case. What we always observe is $C_2C_3V.C_1V$, e.g. a word like *mečka* ‘Mercedes (slang)’ gives *čkame* and never **kameč*. Some of the outputs illustrating this are listed under (14):

(14) Bisyllabic inputs with an internal coda

Serbo-Croatian	Šatrovački	gloss
mečka	čkame	Mercedes (slang)
pička	čkapi	vagina (slang)
hladno	dnohla	cold
piksla	kslapi	ashtray (slang)
lopta	ptalo	ball
fotke	tkefo	photos (slang)
Slavko	Vkosla	Slavko
govno	vnogo	turd

The illustrations given in this table speak for themselves: an internal coda is never moved. Furthermore, what is particularly striking indeed is that some of the initial consonant clusters resulting from the reversal do not exist at all, do not exist anymore in synchrony, or are scarcely attested in S-C. This last point is depicted below:

(15) Resulting clusters

- a. the cluster doesn't exist: **#ksl*, *piksla* ‘ashtray’ > *kslapi* ; **#vk* *Slavko* ‘Slavko’ > *vkosla*
- b. the cluster doesn't exist anymore in synchrony: **#vn*, *govno* ‘turd’ > *vnogo* (*unutra* ‘inside’ < *vnutra*)
- c. the cluster is scarcely¹³ attested: *#tk*, *fotke* ‘pictures (slang)’ > *tkefo* (e.g. *tkanje* ‘weaving’) ; *#pt* *lopta* ‘ball’ > *ptalo* (e.g. *ptica* ‘bird’) ; *#dn* *hladno* ‘cold’ > *dnohla* (e.g. *dno* ‘bottom’)
- d. the cluster is frequent in S-C: *#šk*, *peškir* ‘towel’ > *škirpe* (e.g. *škola* ‘school’) ; *#zn*, *krzno* ‘fur’ > *znokr* (e.g. *znoj* ‘sweat’)...

¹³ ‘scarcely’ means that there are few roots (roughly less than five) displaying such an initial cluster.

Hence Šatrovački does not manipulate syllables. Moreover the choice of Onset/Nucleus pairs leads to the creation of unusual or unattested initial clusters. Through the glasses of somebody evolving in a classical syllabic framework it seems impossible to explain how it could be. We will see in the next section that there is a way to understand why the syllable is not the relevant object if we put on different glasses.

6 Towards a Solution: A Look Through Different Glasses

Utrovački exclusively manipulates Onset/Nucleus pairs, not full syllables, and so does Šatrovački. This is so, even if the result of the reversal operation gives birth to unusual or unattested initial clusters.

Finding a solution may require a change in point of view: the validity of the syllable as a constituent must be questioned. Indeed the data show that a coda is never moved with its nucleus. This fact suggests that neither the syllable, nor the rhyme nor the coda qualify as syllabic constituents. This state of affairs is precisely inherent in a theory called CVCV (Lowenstamm 1996, Scheer 2004, Szigetvári 2001, among others). In this framework, the only constituents are non-branching onsets and non-branching nuclei which strictly alternate. As a consequence, the syllabic arborescence does not exist anymore. Thus, in such theories the coda is not a constituent anymore¹⁴ and the minimal unit is an Onset/Nucleus pair. It is worth noting that the syllabic generalizations that were expressed in an arboreal framework are not lost at any rate in the CVCV theory. Simply, the mechanism that allows us to describe a coda, a branching onset, a long vowel or a closed syllable is different: the arboreal functionality is henceforth expressed in terms of lateral relationships which are embodied by two main forces known as government and licensing.¹⁵

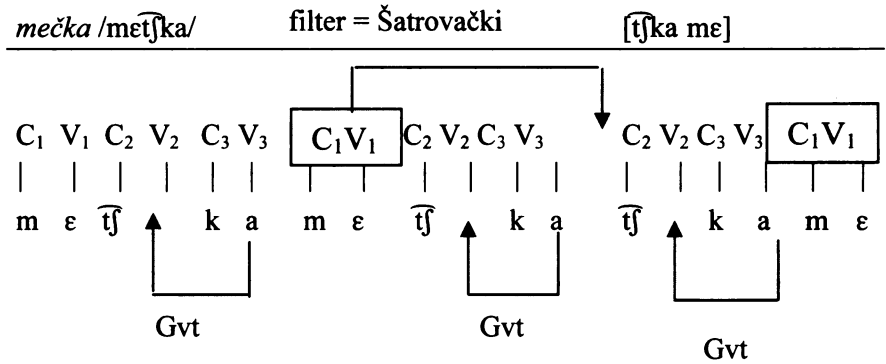
When examined through these new glasses the data presented here lose their exceptional character: there is nothing more natural than moving an Onset/Nucleus pair when this unit is postulated to be the minimal building block. In other words the question ‘why do we not move syllables?’ receives a natural answer: because the syllable is not the minimal unit, (it cannot be since) it is not a proper constituent.

¹⁴ At least in structural terms. There is a formal apparatus to identify what classically refers to the coda.

¹⁵ Cf. Scheer (2004) for questions related to this topic.

With these new glasses, the reversal of an input such as *mečka* ‘Mercedes (slang)’ will be described as follows:

(17) *mečka* ‘Mercedes (slang)’ > *čkame* with the CVCV glasses



Under (17) the Onset/Nucleus pair C₁ V₁ is the minimal building block. This is the unit which is manipulated by Šatrovački/Utrovački speakers. The nucleus V₂ is empty and therefore has to be taken care of: this is achieved through government from the following full nucleus V₃.

7 In Conclusion

The goal of this paper was twofold: 1) to present two Serbo-Croatian language games, 2) to show how their functioning provides an insight into the architecture of phonological representations.

As concerns the first aspect, i.e. the descriptive one, we have witnessed the basic functioning of two ludlings: one based on syllable reversing, Šatrovački and another one based on moving and inserting syllables, Utrovački.

As concerns the theoretical part of this paper, two major points were made: 1) data from Šatrovački are good evidence for the existence of Final Empty Nuclei, 2) both Šatrovački and Utrovački suggest that the classical conception of the phonological architecture with its arboreal constituency is not adequate. Looking through classical glasses does not help explaining why the unit manipulated by two language games is not the syllable. However, putting on new glasses and examining the same

data through a different filter shows that the data at hand are not surprising. The theory known as CVCV (Lowenstamm 1996, Scheer 2004, Szigetvári 2001, among others) predicts that the syllable is not a valid constituent and that the minimal unit is an Onset/Nucleus pair – exactly what is moved by the two language games examined.

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Multiple *Wh*-Relatives in Slavic*

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In the nearly 20 years since Rudin (1988) a great deal of work has been devoted to multiple *wh*-constructions in Slavic,¹ the vast majority of it concerning multiple questions. It has occasionally been mentioned that multiple *wh*-fronting also occurs in certain types of relative clauses in at least some Slavic languages, but multiple *wh*-relatives have received little attention.

The goal of this paper is to begin to rectify this oversight, mostly by raising questions and suggesting some avenues for further research on multiple *wh*-relative clauses (MWRs). Among the very broad questions we might ask are: How are MWRs like or unlike multiple *wh*-questions? How are they like or unlike other relative clauses? Are they free relatives or correlatives? Do headed MWRs exist? (No; presumably due to the ill-formed multiple-headed NP structure required.) What can MWRs tell us about the structure of (non-multiple) free relatives/correlatives? How do they fit into typologies of multiple *wh*-fronting? Preliminary conclusions are that MWRs, like multiple questions, differ in *wh*-landing sites from one language to another (and sometimes within one language); both multiple free relatives and multiple correlatives exist, and the existence of multiple free relatives favors a Comp Account approach to free relatives. I focus on Bulgarian data, in this paper, with some comparison to other

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¹ And more recently in non-Slavic languages too; see most of the articles in Boeckx & Grohmann (2003). This is an area where formal Slavists have really led the way for general linguistics.

Slavic languages, especially Polish, and a short excursus on Romanian at the end.

Before getting to the meat of the paper I briefly review what we know about multiple *wh*-fronting, free relatives, and correlatives.

1 Background

1.1 Multiple *Wh*-Fronting

Work on multiple *wh*-fronting questions has centered on the position of the *wh*-phrases. Things are more complex than I thought at the time, but the core of my 1988 idea that languages differ in the landing sites of fronted multiple *wh*-words has held up well. Some languages have true *wh*-movement of all *wh*'s to SpecCP. These languages are the group I labeled "+MFS" (+Multiply Filled Specifier); represented by Bulgarian and Romanian. In other languages, including most of the Slavic languages other than Bulgarian, only one (or none) of the *wh*'s undergoes *wh*-movement to SpecCP; the others front for different reasons and to different positions, e.g. to Spec of a focus projection.

The different *wh*-landing sites are reflected in a series of diagnostic differences among languages; I illustrate some of these in (1-6) with Bulgarian vs. Serbo-Croatian examples from Rudin 1988. (1-2) show differences in obligatoriness of fronting and long extraction. Bulgarian-type languages have obligatory fronting of all *wh*-words and allow multiple extraction of *wh*-words into a higher clause, while in most other Slavic languages only one *wh* must front, and only one can front long distance; (3-4) show differences in superiority effects which result in strictly fixed word order within the *wh*-word group in Bulgarian but not in Serbo-Croatian; (5-6) show differences in the constituent status of the *wh*-word string: in Bulgarian the *wh*-words form a constituent which cannot easily be split by parentheticals or other material (though there is some evidence the first *wh* has special status), while in Serbo-Croatian a normal position for clitics, adverbials, and parentheticals is between the first and second *wh*-words). Other differences between the two types of languages include the presence of *wh*-islands and differences in pair-list vs. single-pair interpretation of multiple questions.

- (1) a. **Koj kâde** misliš će e otišâl? (BG)
 who where you-think that has gone
 'Who do you think went where?'

- b. * **Koj** misliš će e otišâl **kâde**?
- (2) a. **Ko** želite da vam **šta** kupi? (SC)
 who you-want to you what buy
 'Who do you want to buy you what?'
 b. * **Ko šta** želite da vam kupi?
- (3) a. **Koj kogo** vižda? (BG)
 who whom sees
 'Who sees whom?'
 b. * **Kogo koj** vižda?
- (4) a. **Ko koga** vidi? (SC)
 who whom sees
 'Who sees whom?'
 b. **Koga ko** vidi?
- (5)*? **Koj prâv kogo** e udaril? (BG)
 who first whom has hit
 'Who hit whom first.'
- (6) **Ko je prvi koga** udario? (SC)
 who has first whom hit
 'Who hit whom first?'

This split into two types of languages has undergone considerable refinement since I first proposed it. To mention just a few highlights: Bošković 1997, Stepanov 1998, and others have proposed explanations of the facts based on strength and location of [+wh] and [+focus] features. Bošković has also given a more nuanced picture of the superiority facts, showing that Serbo-Croatian sometimes does exhibit superiority effects, namely under the same conditions in which French requires *wh*-movement. Similarly, Golden 1997 shows that Slovene, which otherwise seems to be a well-behaved -MFS language, takes on +MFS characteristics in long extraction constructions. Grebenyova (2005) points out restrictions on multiple *wh*-fronting, showing that in those languages which allow Left Branch Extraction, only one *wh* can be LBExtracted. She also shows that bare *wh*-words, unlike complex *wh*-phrases, can undergo partial fronting to a position below the subject in Russian and perhaps other languages.² Krapova & Cinque (2004), Billings & Rudin (1996), Jaeger (2004), and others have shown that the order of *wh*-phrases

² But, I would like to point out, not in Bulgarian; as usual, Bulgarian is the odd language out.

(in Bulgarian, where it is fixed) is quite complex, depending on D-linking, type of focus, topicalization, and humanness, as well as Superiority. Lambova (2003), among others, has pointed out that the ban on splitting the *wh*-cluster in Bulgarian is less than absolute, with some interspeaker variation, but that splitting for those who allow it is possible only after the first *wh*, not between the second and third in a cluster of three *wh*-words. In addition it is now well known that the order of second and third *wh*'s is free even in Bulgarian; superiority affects only the first *wh*-word. Works too numerous to mention have clarified details of multiple *wh*-fronting in specific languages, the interaction of multiple *wh*-fronting with sluicing, effects of argument vs. adjunct *wh*, and so on.

In short, multiple-*wh* studies have become a deep and rich field; the typology of multiple *wh*-fronting turns out to be subtler and more complex the more we look at it. But the basic generalization still holds, that differences in multiple *wh*-fronting are attributable to differences in the structural position of the fronted *wh*-phrases.

1.2 Free Relatives

Work on free relatives has also centered on the position of the *wh* element. Here there are two main possibilities, the Comp Hypothesis (first proposed in a generative framework by Groos and van Riemsdijk 1981) and the Head Hypothesis (introduced by Bresnan & Grimshaw 1978). Each of these in turn has at least two sub-cases: Under the Comp Account *wh* is in Comp or more recently in SpecCP, like *wh* in headed relatives; the head position of the dominating phrase is either null (7a) or missing altogether (the Bare CP hypothesis); (7b). Under the Head Account the *wh* is in the head position; either generated there (8a) or raised from within the clause (8b).

(7) Comp Account

- a. null head: $[_{DP} \emptyset [_{CP} wh [_{C'} [_{TP} \dots]]]]$
- b. no head (bare CP): $[_{CP} wh [_{C'} [_{TP} \dots]]]]$

(8) Head Account

- a. *wh* coindexed with pro in clause: $[_{DP} wh_i [_{CP} [_{C'} [_{TP} \dots pro_i]]]]$
- b. *wh* raised from within clause: $[_{DP} wh_i [_{CP} [_{C'} [_{TP} \dots t_i \dots]]]]$

Numerous arguments, both syntactic and semantic, have been adduced for various versions of these two free relative structures, the Comp Account

being favored by any evidence of parallelism to *wh*-questions or to the *wh*-phrase in headed relatives; the head account by evidence of parallelism with the head of headed relative clauses or lack of parallelism with *wh*-questions. Arguments have included the inventory of *wh*-words and phrases used in free relatives, extraposition phenomena, superiority effects, reconstruction effects, and matching effects, among others. Both accounts are alive and well -- papers supporting both (and in Slavic!) were presented at LSA 2006; Martina Gračanin-Yuksek's paper argued for the "Comp Account" for Croatian, while Barbara Citko's argued for the Head Account based primarily on Polish data. Izvorski (2000) argues for a bare CP structure for certain free relatives in several languages. It is not unlikely that free relatives in different languages or different constructions may have different structures.

It is also undoubtedly true that the arguments have been muddied by failure to clearly define "free relative", i.e. to distinguish among several constructions which are sometimes lumped together under the "free relative" label, including concessive conditional clauses and correlatives. Recent work by Izvorski (1996, 1997, 2000) and by Citko (2002, 2004, 2006) has begun teasing out the differences among different relative-like constructions in Slavic. For instance, Citko's (2006) arguments for the Head Account are limited to free relatives strictly speaking (that is, free relatives in argument or adjunct positions within CP). She shows that correlatives align with questions and against free relatives on a number of parameters, including the possibility of Left Branch Extraction. I'll adopt Citko's terminology and distinguish "Free Relative" from "Correlative" in the remainder of this paper. And thus the last area on which we need some background is correlatives.

1.3 Correlatives

A correlative is a relative clause which appears to the left of a full CP. Rather than functioning as an argument or adjunct within the clause, like standard free relatives, correlatives are external to the clause. There is good reason to believe they are bare CP in form.

(9) [[CP *wh* ...]_i [CP ...*proform*_i ...]]

Izvorski (1996) gives a number of tests for distinguishing between free relatives and correlatives. First, correlatives always have a coferential *proform*, usually a demonstrative, in the main clause; this *proform* is

underlined in examples throughout this paper, starting with (10). (The proform could be null if nominative in most Slavic languages, but it can always be made non-null.) Second, for semantic reasons the correlative proform is incompatible with certain interpretations, including “exhaustive”, “relevance”, and focus readings; clauses with these interpretations are thus impossible as correlatives, though they are perfectly normal as free relatives.

Bulgarian examples based on Izvorski’s are given in (10-12). Exhaustiveness, the situation in which the relative clause covers all possibilities, is illustrated in (10): clauses with an exhaustiveness indicator like *dori* or *i da*, both meaning ‘even,’ cannot be correlative. Unlike (10a), which is correlative, the exhaustive examples (10b-c) are ungrammatical with a correlative demonstrative proform. These sentences are fine without the starred demonstrative, in which case the relative clause is a simple free relative, the subject of the matrix clause.

- (10) a. **Kojto** se uči, toj šte spoluči.
 who refl studies he will succeed
 ‘He who studies will succeed.’
- b. *Dori* **kojto** se uči, (*toj) njama da spoluči.
 even who refl studies he will-not to succeed
 ‘Even he who studies will not succeed.’
- c. **Kojto** i da se uči, (*toj) šte spoluči.
 who and to refl study he will succeed
 ‘Whoever studies will succeed.’

Relevance, meaning the relative clause gives conditions for the main clause to be relevant, is illustrated in (11). A free relative but not a correlative can be in a context where it must be interpreted as giving relevance conditions. In (11a), *kogato si gotov* specifies a time, and can be correlative, whereas in (11b) the same phrase specifies not a time, but the conditions under which it would be relevant to know that I’ll be in my office; under this interpretation no correlative proform is possible.

- (11) a. **Kogato** si gotov, (togava) ela v kabineta.
 when you-are ready then come to the-office
 ‘When you’re ready, come to the office.’

- b. **Kogato** si gotov, (***togava**) az šte sâm v kabineta.
 when you-are ready then I will be in-the-office
 ‘Whenever you’re ready, I’ll be in the office.’

The focus effect is illustrated in (12) A free relative but not a correlative can occur with the focusing particle *li*; (12b), with the focusing particle, is grammatical only as a free relative, without the correlative proform.

- (12) a. **Kakvoto** si obeštal, tova šte napraviš.
 what you-have promised that will you-do
 ‘You will do what you promised.’
 b. **Kakvoto** si obeštal **li** (***tova**) šte napraviš?
 what you-have promised foc that will you-do
 ‘Are you going to do WHAT YOU PROMISED?’

Citko (2006) also discusses correlatives in Slavic, including multiple *wh*-correlatives. The possibility of multiple *wh* is one of several features Polish correlatives share with *wh*-questions, as opposed to free relatives (others include LBE possibilities, pied piping, and reconstruction effects). Citko’s examples of multiple correlatives include those in (13).

- (13) a. **Kto co** chce, ten to dostanie.
 who what wants that this gets
 ‘Everyone gets what they want.’
 b. **Komu co** Jan dal, to temu Maria zabierze.
 to-whom what Jan gave, this that_{DAT} Maria take-back
 ‘Whatever Jan gave anyone, Maria took it back from them.’

2 Are All Multiple *Wh*-Relatives Correlatives? Not in Bulgarian

We are now ready to look in more depth at multiple *wh*-relative clauses. On the basis of Citko’s Polish facts, we might expect that all multiple *wh*-relatives are actually correlatives. This prediction is not borne out in Bulgarian, however. Bulgarian has both multiple *wh* free relatives and multiple *wh*-correlatives. This is evident from their position relative to the main clause, their occurrence both with and without anaphoric demonstratives, their immunity to the semantic constraints on correlatives, and perhaps also from certain clitic placement facts.

2.1 Not Left Peripheral, No Anaphoric Demonstrative

First, consider the *wh*-clause's relation to the main clause. Correlatives are distinguished by being in a left peripheral position to a matrix clause which contains an anaphoric demonstrative. Citko's statement that Polish multiple *wh*-relatives all fit these criteria is supported by Williams (1986), who gives examples of multiple *wh*-relatives in Polish and makes a point of showing that they must be the leftmost clause; the multiple relative can neither follow the main clause (as in (14b-c)) nor occur within the main clause (as in (14d-e)); similarly she states no other position is possible for the relative clause in (15).

- (14) a. **Kto z kim** przestają takim się staje.
 who with whom associates, this refl becomes
 'One becomes like the person one associates with.'
- b. *Takim się staje, **kto z kim** przestaje.
 c. *Staje się takim, **kto z kim** przestaje.
 d. *Ten się staje takim, **kto z kim** przestaje.
 e. *Ten, **kto z kim** przestaje, staje się takim.
- (15) **Kto pod kim** dołki kopie, ten sam w nie wpada.
 who under whom holes digs this himself in them falls
 'He who digs holes under his neighbor will fall into them himself.'
 (No other order possible)

Some multiple *wh*-relatives in Bulgarian do fit the correlative pattern; several examples are given in (16):

- (16) a. **Na kojto kakvoto** e pisano, tova šte stane.
 to who what is written that will happen
 'Whatever is fated for each person, that will happen.'³ (web)³
- b. **Kojto kâdeto** e sviknal, tam si živee.
 who where is accustomed there refl lives
 'Each person lives (best) where they have gotten used to.'

³ The notation "web" on this and other examples indicates that they were found by googling *wh* word combinations. All examples have been re-checked with native speakers to ensure their acceptability.

- c. **Kogo kakvoto** go boli, za nego prikazva.
 whom what him hurts of it talks
 ‘Everyone talks about whatever is hurting them.’

But many Bulgarian multiple *wh*-relatives do not fit the correlative mold. Some non-left-peripheral examples are shown in (17).⁴ In (17a-f) the multiple relative follows and appears to be the complement of the main clause verb. In (g) the clause is the complement of a deverbal adjective, while in (h) it is either a complement of a noun or more probably the predicate of an elliptical copular sentence. Regardless of the exact syntactic position/function of the multiple *wh*-clauses in (17), it is clear that the “left peripheral” requirement does not hold in Bulgarian.

- (17) a. **Vzemajte koj kakvoto** može.
 take_{IMP} who what can
 ‘Everyone take whatever you can.’ (Mantov)
- b. **Da kazva koj kakvoto** šte.
 to say who what wants
 ‘Let everyone say whatever they want.’ (Daskalov)
- c. **Sâsedite bjaha si otmâkvali komu kakvoto**
 the-neighbors had refl carried-off to-whom which
kamâče pot_{rj}abvalo.⁵
 little-stone was-necessary
 ‘The neighbors had carried off whichever little stone each one needed.’ (Daskalov)
- d. **Praštajte koj kolkoto** može - parite njama da
 send who how-much can the-money will-not to
 se zagubjat.
 refl lose
 ‘Everybody send as much as you can - the money won’t get lost.’ (web)

⁴ These are all attested textual examples, from published fiction, both older and recent (author’s name in parentheses), or from current web pages, and have been judged well-formed by Bulgarian speakers.

⁵ The dative pronoun *komu* makes this 19th-century example sound somewhat archaic; its current usage it would be replaced with *na kogo* ‘to whom’ or in colloquial speech with *na koj* ‘to who’. One consultant suggested “*na kojto kakvoto kamâče*” as the most normal-sounding modern version.

- e. Da organizirame abonament, da pomognem **koj s**
 to organize_{1PL} subscriptionto help_{1PL} who with
kakvoto može.
 what can.
 ‘Let’s organize a subscription, let’s all help with whatever
 we can.’ (web)
- f. Šte pobjagnat **koj nakâdeto** vidi.
 will run-away who to-where sees
 ‘They’ll all run off wherever they see./ They’ll run in all
 directions.’ (Daskalov)
- g. V antreto se bjaha sâbrali vsiĉki slugi, vâorženi
 in the-entry refl were gathered all servants armed
koj s kakvoto mu padne.
 who with what to-him fell
 ‘In the entryway all the servants had gathered, each armed
 with whatever came to hand.’ (web)
- h. Objad **koj kogato** e v sâstojanie da jade.
 lunch who when is in condition to eat
 ‘Lunch whenever anyone is in condition to eat.’
 (Korudžiev - sign in a fictional hotel room)

In addition, note that none of these examples contains an anaphoric demonstrative in the matrix clause. In fact, they are incompatible with any such anaphoric element. To demonstrate this for just one of the examples, compare (17d) to the ungrammatical sentences in (18), the result of attempting to add anaphoric pronouns or demonstratives. No anaphoric element is possible with the clause in situ, or even, more surprisingly, when it is left-dislocated.

- (18) a.= (17d) Praštajte [**koj kolkoto** može].
 ‘Everybody send as much as you can.’
- b. *Praštajte go [**koj kolkoto** može].
 it
- c. *Praštajte tova [**koj kolkoto** može].
 that
- d. *Praštajte tolkoz [**koj kolkoto** može].
 that-much
- e. * [**Koj kolkoto** može], praštajte go / go praštajte.

- f. * [Koj kolkoto može], praštajte tova.
 g. * [Koj kolkoto može], praštajte tolkoz.

2.2 Semantic Constraints Do Not Hold

Furthermore, Bulgarian has multiple *wh*-relatives with at least some of the interpretations which Izvorski (1996) argues cannot occur in correlatives; as noted above, these include exhaustive, relevance, and focused meanings. Multiple *wh*-relatives which violate these semantic constraints must be non-correlative. Examples of multiple *wh* free relatives with the exhaustiveness marker *i da* are given in (19a-d); these are relatively common. I have not found text examples of the other two types, but consultants found the focused example (21) normal and the relevance example in (20) marginally acceptable.

(19) exhaustive: (cf. (10))

- a. Vseki se otbivaše, **kojto kogato i da** mineše.
 each refl drop-in who when and to pass
 ‘They all dropped in, each one whenever he was passing by.’
 (Penchev)
- b. **Kojto kogato i da** mineše se otbivaše. (=19a)
- c. **Kojto kakvoto i da** mu kaže, Ivan šte napusne
 who what and to to-him say Ivan will quit
 rabotata si.
 the-job his
 ‘No matter who says what to him, Ivan will quit his job.’
 (Izvorski 2000)
- d. **Koj kakvoto i da** misli, az si pravja snimkite po
 who what and to think I refl make pictures in
 moj način.
 my way
 ‘No matter who thinks what, I take my pictures in my own way.’ (web)

(20) relevance: (cf. (11))

- ?? **Koj kogato e** gotov, az šte sâm v kabineta.
 who when is ready I will be in the-office
 ‘Whenever anybody is ready, I’ll be in the office.’

(21) focused: (cf. (12))

Koj kakvoto e obeštal li ŝte napravi?
 who what has promised focus will do
 ‘Will everyone do WHAT THEY PROMISED?’

2.3 Clitic Placement

A final argument that not all Bulgarian multiple *wh*-relatives are correlative may come from the position of verb-adjacent clitics in the main clause. As is well known, Bulgarian clausal clitics cannot be initial. Almost anything can serve as the pre-clitic host, including conjunctions, complementizers, and other unstressed words such as negative or future markers. However, certain “dislocated” Topic phrases, which are outside CP and separated by a pause, cannot so serve, and cannot be immediately followed by clitics. The topic *pârvata statija* in (22b) is in a more peripheral position than that in (22a) (without going into any detail on exactly what either position might be); the pause or comma intonation represented by // forces clitic-verb inversion.

- (22) a. *Pârvata statija ja e pročel veče.*
 the-first article it has read already
 ‘The first article he’s already read.’
 b. *Pârvata statija // pročel ja e veče*
 ‘As for the first article, he’s already read it.’

Correlative clauses such as those in (16) are like the dislocated topic in (19b) in having comma intonation/pause, so we would expect them not to be able to serve as clitic hosts. Unfortunately this prediction is hard to test, since the main clause following a correlative must begin with the demonstrative; Izvorski (1996) argues that correlative demonstratives in fact undergo *wh*-movement. Compare (23b,c) to (16b), repeated here as (23a): the sentence is ungrammatical either with or without clitic/verb inversion if the demonstrative is not initial.

- (23) a. **Kojto kâdeto e sviknal, tam si živee.**
 who where is accustomed there refl lives
 ‘Each person lives (best) where they have gotten used to.’
 b. * **Kojto kâdeto e sviknal, živee si tam**
 c. * **Kojto kâdeto e sviknal, si živee tam.**

Nonetheless, it is striking that other multiple relatives, without the correlative *pro*-form, can serve as clause-initial clitic host. The multiple *wh*-clause in (24), immediately followed by the clitics *si go e*, is arguably in a relatively close-in, CP-internal position rather than in the peripheral, clause-external, pause-separated position occupied by correlatives.

- (24) **Kojto kakvoto e** polučil, *si go e* zaslužil.
 who what has received refl it has deserved
 ‘Everyone deserved whatever they got.’ (web)

2.4 Conclusion and Speculations

Multiple *wh*-relative clauses in Bulgarian clearly occur both as free relatives and as correlatives. This raises two issues: (a) why is this true in Bulgarian but not in Polish?, and (b) what is the structure of Bulgarian multiple *wh* free relatives? (Do they support Comp or Head Account?) Herewith some preliminary speculations toward an answer.

Given that Polish has only the correlative variety, as claimed by Citko and implied by Williams, we have a split within the Slavic family. Once again, as with multiple *wh*-questions, superficially similar-looking constructions turn out to have different structures in different languages; and once again Bulgarian and Polish are on opposite sides of the parameter. I have not been able to investigate other languages in any detail, but I strongly suspect that as usual Bulgarian (and probably Macedonian) will be the exception to the Slavic rule; i.e. that most languages in the family will be more similar to Polish. The reason for this prediction is the obvious hypothesis is that this split is yet another consequence of the “MFS” parameter, that is, Bulgarian is able to have multiple *wh* free relatives BECAUSE all fronted *wh*-phrases in Bulgarian land in SpecCP. How and why this should follow needs further study.

Concerning the Comp Account vs. Head Account of Bulgarian multiple *wh*-relatives, I argued in 1986 that the *wh*-words cannot be heads, because of obvious semantic and syntactic problems with multiple-headed categories. Izvorski (2000) makes similar arguments for one group of correlatives, what she calls “free adjunct free relatives”.⁶ She considers the fact that multiple *wh*s are possible in this construction to be an argument for bare CP status (not DP), since “otherwise one would have to

⁶ These are adverbial relatives like the first clause of (i):

(i) Whatever John cooks, he will win the cooking contest.

posit nominal structures with multiple heads.” (239) If this reasoning is correct, all multiple *wh*-relatives would have to be bare CP, favoring the “Comp Analysis” by default since there would be no head, null or otherwise. This seems unsatisfactory, though, given that some multiple relatives appear in argument DP positions. I suggest that Bulgarian multiple *wh* free relatives are null-headed; i.e. they have the standard “Comp Account” structure in (7a), and that a null head, unlike a lexical one, is able to be construed with multiple *wh*-phrases in a single SpecCP. For further discussion of heads of multiple free relatives, see section 4.⁷

3 Superiority Effects

Turning to another topic, consider superiority effects in Slavic multiple *wh*-relatives. Recall from (3-4) above that this is one of the classical diagnostics of *wh*-movement to Spec CP rather than *wh*-fronting by focus movement or adjunction to IP. Superiority is the requirement that, for economy reasons, given a choice of several *wh*-words, the highest must be the one to undergo *wh*-movement (or must be the first to move in case of multiple movement).⁸ Thus for instance a subject rather than an object *wh*-word moves in single-*wh*-fronting languages like English (as in (25)), and subject precedes object *wh*-word in multiple fronting languages which have multiple overt *wh*-movement (again, see (3)).

(25) Who saw what? / *What did who see?

Bošković 2002 states that superiority effects in multiple *wh*-relatives in various languages mirror those in multiple *wh*-questions, giving the examples in (26-28). Russian has no Superiority effects in multiple questions, and also has none with multiple *wh*-relatives.

- (26) a. **Kto kogo** uznaet, tot togo i poljubit.
 who whom knows that that_{ACC} and loves
 ‘Everyone will love the person they will know.’
 b. **Kogo kto** uznaet, togo tot i poljubit.

⁷ See Citko (2002) for an argument that Polish free relatives are *wh*-headed.

⁸ Superiority has been formalized in various ways, e.g. as a consequence of Shortest Move. All that concerns us here is the presence or absence of the effect.

Serbo-Croatian multiple questions exhibit Superiority effects only where *wh*-movement must occur, namely in embedded contexts and where C is overt. “Embedded contexts” obviously includes relative clauses, and as expected Superiority effects are manifested in multiple *wh*-relatives:

- (27) a. [Ko koga voli], taj o njemu i govori.
 who whom loves that about him even talks
 ‘Everyone talks about the person they love.’
 b. ?* [Koga ko voli], taj o njemu / o njemu taj i govori.

Bulgarian, which *wh*-moves all *wh*-words in all contexts, displays Superiority effects everywhere, including both multiple questions and multiple relatives. Bošković’s examples are of the correlative type, but the generalization holds for all other multiple relatives as well. (Note that Bošković’s starred example, (28b), is bad for independent reasons; Bulgarian multiple relatives have the definite *-to* suffix on the last *wh*-word or sometimes on both *wh*’s, but never just on the first *wh*. I have added the (c-d) examples, which show that even with correct morphology, the object-subject *wh*-word order is ungrammatical.)

- (28) a. **Koj kogoto** običa, toj za nego i govori.
 who whom loves he about him and talks
 ‘Everyone talks about the person they love.’
 b. * **Kogoto koj** običa, toj za nego / za nego toj i govori.
 c. * **Kogo kojto** ...
 d. * **Kogoto kojto**...

Citko 2006 shows that Polish correlatives, like multiple questions in that language, allow superiority violations:

- (29) a. **Kto co** chce, ten to dostanie.
 who what wants that this gets
 ‘Everyone gets what they want.’
 b. **Co kto** chciał, ten to dostał.
 ‘Everyone got what they wanted.’

To the best of my knowledge, the generalization that superiority effects in a given language are the same for all multiple *wh*-constructions holds.⁹ If true, this is quite strong evidence that multiple *wh*-relatives, both correlatives and, in languages which allow them, free relatives, have the same structure as multiple *wh*-questions. Investigation of how robust this generalization is, across languages and across constructions within a language, is an obvious avenue for further research.

4 Matching Effects

Another classic issue in the analysis of free relatives is matching effects. Like many others, Slavic languages exhibit matching, in the sense that the *wh*-phrase in a free relative must fit the case and subcategorization requirements of the relative clause's position/function within the main clause. Serbo-Croatian and Slovene examples from Izvorski (1997) are given in (30-31). (30b) is ungrammatical because the verb *unajmiću* requires a nominal object, not a PP like *s kime*. (31b) is bad because 'help' takes a dative complement, while the *wh*-word *kdor* is nominative.

- (30) a. Pričaću [s **kime** god ti budeš pričao]. (SC)
 I-will-talk with who ever you will-be talked
 'I will talk with whoever you talk with.'
- b. *Unajmiću [s **kime** god budeš pričao].
 I-will-hire with who ever you-will-be talked
 'I will hire whoever you talk with.'
- (31) a. Pomagal bom [**komur** oni pomagajo]. (SN)
 help I-will who_{DAT} they help
 'I will help whoever they help.'
- b. *Pomagal bom [**kdor** pride prvi].
 help I-will who_{NOM} comes first
 'I will help whoever comes first.'

Multiple *wh* free relatives in Bulgarian have matching effects, as I showed in Rudin (1986). In (30) the verb *grabnaha* requires a nominal object;

⁹ Bošković (2002) gives examples of superiority effects in multiple *wh* indefinite constructions as well as questions and relatives.

thus a free relative starting with a *wh*-pronoun is fine, while one starting with a *wh*-prepositional phrase is ungrammatical.¹⁰

- (32) a. *Ženite grabnaha koj kakvoto vidi.*
 the-women grabbed who what saw
 ‘The women each grabbed whatever she saw.’
 b. **Ženite grabnaha ot kogo kakvoto možaha.*
 the-women grabbed from whom what could
 ‘The women grabbed whatever they could from anyone.’

In contrast, correlatives, which are not arguments and not in a subcategorized position, have no matching effect. In (33a), a left-peripheral correlative clause is perfectly fine with an initial preposition, while the same clause in a position in which it would be the subcategorized object of *vârni* is ungrammatical. A preposition-initial relative like *ot kogo kakvoto si vzel* is possible only as a correlative, not as a subcategorized free relative.

- (33) a. *Ot kogo kakvoto si vzel, vârni go na*
 from whom what you-have taken return_{IMP} it to
nego.
 him.
 ‘Whatever you’ve taken from anyone, return it to him.’
 (correlative)
 b. **Vârni ot kogo kakvoto si vzel.*
 return from whom what you-have taken
 ‘Return whatever you’ve taken from anyone.’
 (free relative)

The fact that multiple *wh* free relatives in Bulgarian exhibit matching effects is thus one more difference between them and correlatives (and one more indication that multiple *wh*-relatives are not all correlatives). It also suggests that matching effects do not necessarily support the Head Account of free relatives. Matching effects have often been used as

¹⁰ Rather unexpectedly, some Bulgarian speakers find (30b) grammatical with definite marking on both *wh* words:

i. *Ženite grabnaha ot kogoto kakvoto možaha.*

See below for discussion of *wh-to wh-to* vs. *wh wh-to*.

arguments for the Head Account; the idea being that the head of DP would be subcategorized by the matrix clause. However, it seems quite clear in this case that the *wh*-words are not head(s) of the DP containing the relative clause, and the matching effect must be accounted for in some other way. As I've already noted, multiple *wh*-heads of DP in a structure like (7b) would surely be ruled out semantically if not syntactically. Furthermore, an alternate structure with just the first *wh* in the DP head also seems wrong semantically; in (30a) for example, the women grabbed "what", not "who", but if just one *wh* were to be the head, it would presumably be *koj*, not *kakvoto*. The fact that the first *wh* can have the definite *-to* suffix also argues against such an account, since the head would arguably be a *wh*-indefinite pronoun. Multiple *wh* free relatives thus support not only the Comp Account, but the idea that matching effects must be explainable under the Comp Account.

5 Some Questions about Bulgarian

Since this paper is basically all about raising questions, I list here several unsolved or under-investigated aspects of Bulgarian multiple relatives. No doubt similar issues deserve attention in other Slavic languages as well.

5.1 The Form of Wh-Words Themselves: *wh wh-to vs. wh-to wh-to*

The *wh* words in Bulgarian multiple relatives resemble interrogative *wh*-words, but with a definitizing suffix *-to* which must occur on at least the second *wh*-word, and may occur on both.¹¹ Examples of both types have occurred throughout the paper; a direct comparison is given in (34).

(34) [koj kakvoto ima] vs. [kojto kakvoto ima]
 who what_{DEF} has who_{DEF} what_{DEF} has

It is unclear to me what the difference is between relatives with *-to* only at the end of the *wh*-string: [*wh wh-to*], and those with *-to* affixed to both *wh*-words: [*wh-to wh-to*]. There appears to be no difference in syntactic

¹¹ The *-to* suffix appears on the single *wh* word of headed relatives as well, but the inventory of *wh* words that occurs in headed relatives is slightly different; for instance, *kojto/koeto/kojato/koito* 'which (m/n/f/pl)' is found in headed but not free relatives, while *kakvoto* in the meaning of 'what' is found in free relatives but not in headed ones.

behavior between the two constructions,¹² and if there is a semantic distinction, it is extremely subtle. It is possible that there is a difference in interpretation. Olga Arnaudova (p.c.) suggests that (35a-b) are not quite identical, in spite of their identical English glosses.

- (35) a. **Koj kakvoto** iska, da vzeme.
 who what_{DEF} wants to take
 ‘Let everyone take whatever they want.’
- b. **Kojto kakvoto** iska, da vzeme.
 who_{DEF} what_{DEF} wants to take
 ‘Let everyone take whatever they want.’

For her, (35a) has a pair-list reading: Given a set of things and a set of people, each person is to take whichever of those things he or she wants. By contrast, (35b) has a universal quantifier reading, and could be paraphrased with (36):

- (36) Vseki kakvoto iska da vzeme.
 everyone what_{DEF} wants to take
 ‘Let everyone take whatever they want.’

I have not been able to confirm this judgement with other speakers. The issue is complicated by the fact that some speakers strongly prefer one version or the other. Two of my consultants consistently “correct” [wh wh-*to*] examples to [wh-*to* wh-*to*], while another nearly always states [wh-*to* wh-*to*] examples “would sound better” without the first -*to*. In fact, the difference may be primarily stylistic, involving idiolectal preferences and perhaps colloquial vs. more formal style.¹³

5.2 What Combinations of *wh*-Words/Phrases Are Possible?

Multiple *wh*-relatives are rather infrequent in texts and it is difficult to find examples of them with the broad range of *wh*-word combinations that

¹² I have previously suggested (Rudin 1986) that the ability of one -*to* to make the entire *wh*-string definite proves that the string is a constituent; however, I know of no evidence that [wh wh-*to*] is a tighter constituent than [wh-*to* wh-*to*].

¹³ In my admittedly tiny sample, I have the impression that strong preference for single -*to* correlates with desire to use only correct literary Bulgarian. Yovka Tisheva (p.c.) suggests dialect may be a factor as well.

occur in multiple questions. This in turn makes it difficult to investigate issues such as whether humanness, d-linking, or other factors affect the ordering of *wh*-words in a cluster, as they do in questions. By far the most frequently attested combination is *koj(to)* ‘who’ followed by an accusative or adverbial *wh*-word. I have found no examples of free relative with more than two *wh*-words, none with sequences of adjuncts, no combinations involving *zašto* ‘why’, or adjectival *wh*-words *koj/koja/koe/koi* ‘which,’ but would not want to claim at this point that these are impossible. Testing invented examples of these types with native speakers is an obvious next step.

5.3 What about Apparent (nonQ) Multiple Wh Main Clauses?

Finally, consider multiple *wh*-constructions in which the *wh*-clause appears to constitute a complete sentence. These may simply be elliptical (i.e., missing a higher matrix clause), but it is possible something more interesting is going on in at least some of them. (37a) is a common saying, a frequently repeated frozen expression, but the other examples are not.

- (37) a. **Koj kakto** go razbira.
 who how it understands
 ‘However each one understands it.’, i.e. ‘To each his own’
- b. Gasjat se lampite i **koi kogoto** hvane.
 extinguish_{3.PL} refl the-lights and who whom grabs
 ‘The lights go out and everyone grabs someone/whoever they can.’ (web)
- c. I tuk veče **koj kogoto** izjade.
 and here already who whom ate-up
 ‘And here it’s dog eat dog.’ (web)
- d. **Komu kakvoto** e nužno seme.
 to whom what-kind is necessary seed
 ‘To each whatever kind of seed he needs.’ (Talev)

One scenario worth investigating is that one or both *wh*’s in such sentences are indefinite pronouns rather than relative *wh*-words. Bare *wh*-words do function as indefinite pronouns in many languages, and can do so in Bulgarian under certain conditions, especially in existential constructions with *ima* ‘there is’ or *njama* ‘there isn’t’, as in (38).

- (38) Njama koj da mi pomaga.
 there-isn't who to me help
 'There's no one to help me.'

6 An Aside on Romanian

Before closing, let us take a brief detour out of the Slavic family.¹⁴ As the other classical +MFS language, along with Bulgarian, Romanian is clearly of interest. To the extent that multiple *wh*-relatives parallel multiple questions, we predict Romanian will mirror the Bulgarian facts. Although I have not yet investigated Romanian in detail, an initial glance suggests that the prediction will turn out to be accurate.

Romanian does have multiple *wh*-relatives, and as expected they appear to be more similar to those of Bulgarian than those in e.g. Polish. There are two types; one with a d-linked *wh*-word, for instance, *care* in (39), and one with two non-d-linked *wh*-words, as in (40).

- (39) a. Luați **care** **ce** vreți.
 take who what you-want
 'Take whatever you all want.'
 b. * ... **ce care** ...
- (40) a. Trăncănește **cine** **ce** vrea
 blabs who what wants
 'Everyone's blabbing whatever they want.'
 b. * ... **ce cine** ...
 c. ***Cine ce** vrea trăncănește.

In both cases, the order of the two *wh*-words is fixed; that is, superiority is respected, as can be seen in the (b) examples. Furthermore, notice that the multiple *wh*-clause not only can, but must follow the main verb (see (40c)), and it contains no correlative demonstrative. These are clearly free relatives, not correlatives.

¹⁴ All of the data in this section were generously provided by Virginia Hill.

Romanian also has single *wh*-correlatives, which precede the main clause and are referenced by a correlative demonstrative, *aia* in example (41).¹⁵

- (41) **Ce** seamă^{nă}, aia culege.
 what sows that reaps
 ‘He/she reaps what he/she sowed.’

Multiple *wh*-correlatives are, however, impossible in Romanian. (42) shows that a semantically and pragmatically reasonable attempt to add another *wh*-phrase to (41), giving a meaning something like ‘whoever sows something, reaps it’ or ‘one reaps whatever one sows,’ is ungrammatical. It’s not clear to me what could account for this; however, note that many languages (e.g. English) lack correlatives altogether, so restricted availability of correlatives is not very surprising.

- (42) ***Cine ce** seamă^{nă}, aia culege.
 who what sows that reaps

Even from this limited data, at least two things seem clear: (1) Romanian patterns with Bulgarian in having true multiple *wh* free relatives (as opposed to correlatives), as we might expect if this option is dependent on having multiple *wh* in SpecCP and (2) Romanian continues the apparently universal tendency for superiority effects to obtain in multiple relative constructions if and only if they obtain in multiple questions in that language.

7 Conclusions

As promised, this paper contains more questions than answers; my intention is to promote investigation of multiple *wh*-relatives, not to present a particular analysis at this point. Nevertheless, some preliminary conclusions can be drawn. More work is needed to support claims about Slavic as a whole, much less universals, but some facts are clear and a split is evident between Bulgarian (and Romanian) on the one hand and Polish on the other. To sum up very roughly, I have shown that:

¹⁵ This construction is apparently common in proverbs, as correlatives are in at least some of the Slavic languages, but rare in colloquial language.

1. Slavic and other multiple *wh*-fronting languages differ in the type and structure of multiple *wh*-relative clauses they allow. Some have only multiple correlatives, some have only multiple free relatives, some have both. These differences are manifested in the multiple *wh*-relative's position with respect to the matrix clause, the presence or lack of an anaphoric demonstrative, interpretation possibilities, and perhaps by clitic placement.

2. The existence of multiple *wh* free relatives (as opposed to correlatives) appears to correlate with "+MFS" structure for multiple questions. That is, apparently only languages with *wh*-movement of all *wh*-words to SpecCP permit multiple *wh* free relatives.

3. Multiple *wh*-relatives (both free relatives and correlatives) seem to align with multiple *wh*-questions with regard to the position of the *wh*-words in a given language. Superiority effects mirror those in questions.

4. Multiple *wh* free relatives give some support to the Comp Account of free relatives; at least, they are very problematic for the Head Account.

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The Functional Structure of Imperative Phrase Markers: Evidence from Adult and Child Slovenian Imperatives*

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Imperatives have long been a matter of investigation in the generative syntactic tradition (e.g., Beukema and Coopmans 1989; Han 1998, 2001; Platzack and Rosengren 1997; Rivero and Terzi 1995; Zanuttini 1997, *inter alia*). While most—if not all—accounts agree that imperatives share many properties cross-linguistically, some characteristics still differ considerably from one account to another. For instance, all researchers agree that an imperative form of the verb need not always be marked morphologically, i.e., many languages do not have separate inflectional imperative paradigms as in declaratives and subjunctives (or other moods, for that matter), but rather employ other morphosyntactic devices that give rise to imperative meaning, such as specific particles, clitics, or clitic-like affixes, verb stem alterations, or simply infinitive or subjunctive verbal forms with imperative force (Han 1998; Platzack and Rosengren 1997; Zanuttini 1997). Furthermore, all existing accounts also seem to agree that an overt subject in imperatives never seems to be obligatory and is overtly used for contrast or emphasis only (Han 1998; Platzack and Rosengren 1997). One major characteristic over which the linguistic community seems to be split—and a characteristic that has attracted attention only recently in the literature—has been a putatively universal restriction against embedding imperative clauses. While most accounts argue that embedding imperatives is not an option in grammar (e.g., Han

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1998; Palmer 2001; Platzack and Rosengren 1997), some disagree, showing that embedding is possible (e.g., Milojević Sheppard and Golden 2002; Rupp 2003). Another characteristic of imperatives that has been a matter of intense investigation and dispute recently is the source of sentential force associated with the imperative clause. While it is generally assumed in the Chomskian paradigm that force is directly encoded in the clause structure (specifically, via a feature in the Complementizer head; e.g., Chomsky 1995; Rizzi 1997), some have recently proposed that sentential force may not be present in the phrase structure *per se*, but rather arises via the interplay between syntax, semantics, and pragmatics (e.g., Zanuttini and Portner 2003). A nontrivial issue is also one of a phrase marker of imperatives and—particularly—the nature of Tense and/or Agreement in the imperative phrase marker¹.

The aim of this paper is twofold. First, I clarify and extend Milojević Sheppard and Golden's (2000, 2002) accounts, arguing that the phrase marker of Slovenian imperatives is not deficient in not having an active T head or not having T at all. I maintain this argument on the basis of imperative morphology, distributional facts of imperatives in *da*-clauses ('that clauses'), the characteristics exhibited by imperative subjects, as well as clitic and negation facts. Second, I show that certain patterns of word order (particularly object DP scrambling) in child Slovenian lend further support to the hypothesis that imperative markers are T-based representations (in the sense that they are not stripped off of T or have an inactive T), which—I argue—conforms to Guasti and Rizzi's (2000) conclusion that child language data can and should inform linguistic theory.

¹ In the Chomskian paradigm (Chomsky 1995ff.), agreement (Agr) and tense (T) features are generally subsumed under a T head. However, prior to the 'minimalist' version of the theory, T and Agr were treated as separate heads, each projecting its own phrase. Even prior to that, T and Agr were labeled collectively as Infl (Inflection). There seems to be some confusion in the syntactic literature as to how to categorize formally imperative morphology in terms of these two functional heads (cf. Rupp 2003; Rus 2005). In language acquisition, it has been argued independently that the latest development in linguistic theory should have preserved two distinct functional categories based on evidence from child language data (cf. Guasti and Rizzi 2000).

1 Imperatives and 'Finiteness'

Traditional grammars classify imperatives as 'finite' clauses along with indicatives and subjunctives. Infinitives, gerunds, participles, and supines, on the other hand, have generally been treated as 'nonfinite' (Jespersen 1948; Quirk, Greenbaum, Leech and Svartvik 1985, cited in Bohnacker 1999). Traditionally, three arguments are given for the finiteness in imperatives (after Bohnacker 1999): (1) 'sentence-building power' (i.e., imperatives can stand on their own, just as declaratives and interrogatives with indicative verbs do); (2) the presence of nominative subjects (particularly since imperatives can have overt subjects); (3) finite morphology.

The diagnostics in (1) and (2) can easily be refuted. First, nonfinite clauses can also stand on their own, given the right context (e.g., *Why not go to Panama's carnival in February?*; *Why throw all this food away if you can feed all the homeless in the street with it?*). Second, with respect to the nominative subjects use, imperatives can also occur without overt subjects, which presumably does not affect the status of the imperative verb. Moreover, null subject languages do not use overt subjects (with finite verbs) anyway. Hence, the $[\pm]$ specification value of nominative subjects cannot be a good criterion for $[\pm]$ 'finiteness'. Furthermore, in certain languages (e.g., Icelandic) finite verbs can take non-nominative oblique subjects. Finally, in some cases (e.g., German), overt nominative subjects may occur with nonfinite non-imperative infinitival verbs (Bohnacker 1999). This leaves us with the third traditional argument for 'finiteness', namely imperative morphology. Ideally, imperative morphology should be distinct from that found in any other mood in a language and—in the strictest sense—distinct from any person in any number in any other mood. This is the case of Slovenian, whose imperative morphology has a distinct verbal paradigm, not overlapping with any other verb paradigm.

This fact seems to contradict Platzack and Rosengren's (1997) account, which asserts that imperatives should be regarded as 'tenseless' and 'nonfinite'—specifically in German, Icelandic, English, and Swedish—because "the imperative form is morphologically meager" (p. 194). Platzack and Rosengren (*ibid.*) (henceforth, P&R) claim that such treatment is necessary since imperatives take the simplest morphological forms, homophonous with the infinitives or nonfinite bare verb stems, and their paradigms have fewer forms than indicative verb paradigms. Though these facts are generally descriptively true, they do not necessarily prove

that imperatives are indeed nonfinite, and much less that they do not contain T in their phrase markers². Since directives typically have second person addressees, it is not surprising that many imperative paradigms have forms for second person(s) only. Furthermore, while P&R are right in arguing that in many languages the second person singular imperative takes the form of the verb stem, this cannot be sufficient to prove that imperatives are T-based. For example, German, English, and Icelandic all have indicative verbs without overt inflections that are homophonous with the verb stems (e.g., English *drive* in *They drive to the country every weekend*), yet they have never been treated as lacking T³.

In what follows, I first review the imperative morphology in adult Slovenian and offer a stronger piece of evidence for T-based morphology in imperatives rather than simply a rich agreement paradigm. I show that imperatives can embed and that the word order facts as well as the imperative subject characteristics entail that imperatives carry T.

² The terms 'finite' and 'nonfinite' are somehow confusing in the literature. Although traditionally, a finite verb form has been described as the one expressing tense (past, present, future) and/or person (hence, agreement or phi-feature agreement in today's terms) and a nonfinite form the one lacking such agreement, modern generative literature generally assumes that finiteness is a phenomenon associated with a lack or presence of a T head (or its featural specification, or even its lexical contents) in a phrase marker, rather than with the (verb's) lexical form itself. For example, infinitives are traditionally nonfinite, but may show tense and/or phi-feature agreement (e.g., inflected infinitives in Portuguese, infinitives inflected with clitic pronouns in Italian, etc.). Conversely, there are nonfinite clauses in which T is present (e.g., in to-infinitival clauses in English). Hence finiteness does not really go hand in hand with the presence of T (or its lexical realization), much less with the presence of Agr (if at all!). I will use the term 'finite(ness)' only when referring to the analyses that crucially rely on this term, but will use T-based forms and T-based representation in my analysis, simply referring to the idea that the phrase marker contains T *structurally*. Hence, one of the reviewers' conclusions that my distinction may be merely one of terminology does not hold. I am agnostic as to whether such representation is finite or nonfinite in traditional sense.

³ Ever since Chomsky's *Syntactic Structures* (1957), it has been assumed that non-3 SG verb forms in the English indicative carry null morphemes and Rupp (2003) argues that it makes no sense to not assume null morphology in imperatives. She shows that in the Early Modern English period, verbs had distinctive 2SG and 2PL imperative forms with no ending (\emptyset) and a *-th* suffix, respectively.

2 Imperatives in Adult Slovenian: Evidence for T

Slovenian is a second position (2P) ('Wackernagel') clitic language, which—according to descriptive grammars—distinguishes among three moods, namely indicative, imperative, and exclamative (Toporišič 2000: 657). The indicative and the imperative have distinct verbal morphology. Table 1 shows the imperative (IMP) morphology contrasted with the present indicative (IND) one; the IND one has 9 cells (1/2/3SG, 1/2/3DU, 1/2/3PL), while the IMP one has a restriction in allowing only for 2nd person singular and 1st and 2nd persons DU and PL. Only the person/number cells that the two paradigms have in common are shown, the main focus being distinct morphology:

Table 1: Adult Slovenian indicative and imperative paradigms

	2SG	1DU	2DU	1PL	2PL
PRES	delajš	delava	delata	delamo	delate
IND					
IMP	delaj you- work	delajva let-us two work	delajta you two- work	delajmo let-us three or more- work	delajte you three or more- work

Toporišič (*ibid*) argues that 'true' imperatives, i.e., imperatives with distinct imperative morphology, are used only when one is ordering someone to accomplish an action. This statement is too strong since 'true' imperatives can have a wider interpretation which is not limited to ordering only—they can also express suggestion, for example (for details, see Rus 2005). Conversely, sentences with conditionals and modals can also have the interpretation of ordering. Below I focus on imperatives that show 'true' imperative morphology regardless of their speech act interpretation. Such imperatives can appear in root (1[a-c]) as well as embedded (1[d-f]) contexts:

- (1) a. Pojej jabolko!
 eat_{2SGIMP} apple
 'Eat an apple.'
- b. Pokažita, kaj znata!
 Show_{2DUIMP} what can_{2DUPRESIND}
 'Show (us/me) what you can (do).'
- c. Pojdite stran!
 go_{2PLIMP} away
 'Go away.'
- d. Rekel je, da pojej jabolko.
 said is that eat_{2SGIMP} apple
 'He said that you must/should eat an apple.'
- e. Ukazal je, da pokažita, kaj znata.
 ordered is that show_{2DUIMP} what can_{2DUPRESIND}
 'He ordered you to show (him/us, etc.) what you can (do).'
- f. Ali je ukazal, da pojdite stran?
 Q is ordered that go_{2PLIMP} away
 'Did he order you to go away?'

Milojević Sheppard and Golden (2002) (henceforth, S&G) argue against P&R by contending that imperative clauses are not 'tenseless', where the term 'tenseless' (in P&R's analysis) is not to be understood merely as 'nonfinite', but rather as a clause completely lacking the TP projection. P&R state that imperatives do not seem to be related to time and as such, there is *no* tense-feature in their lexical entry and hence *no* TP in their phrase marker. S&G's argument does not come from the embedding itself since 'nonfinite' clauses can be commonly embedded cross-linguistically. Rather, what S&G have in mind when arguing against the lack of T in imperatives (though this is not spelled out in the paper at all) is that the presence of an overt complementizer in C (Slovenian *da*) indicates that there must be a complement clause to the head C, namely a TP. This, however, still does not present good enough evidence since complementizers can crosslinguistically introduce nonfinite clauses (cf.: *It was difficult* [_{CP} *for John to go there*] with *for* selecting an infinitival clause). However, in Slovenian *da* (just like English *that*) never c-selects a [-finite] clause, as seen in the examples in (2) below:

- (2) a. Ukazal mi je, (da) naj delam.
 ordered me is (that) naj_{PART} work_{1SGPRESIND}
 'He ordered me to work/He told me that I must/should work.'

- b. Ukazal mi je delati.
 ordered me is work_{INF}
 'He ordered me to work.'
- c.*Ukazal mi je, da delati.
 ordered me is that work_{INF}
 'He ordered me to work.'

In the examples above, we see that the complementizer *c*-selects either a [+finite] T ((2)a) or a [-finite] T ((2)b). However, it cannot be complemented by an infinitival clause with the presence of overt *C*. Compare the examples in (2) with that in (3), where an imperative verb occurs in an embedded context:

- (3) Ukazal je, da delaj.
 ordered is that work_{2SGIMP}
 'He ordered you to work/that you just work.'

From the examples above, we can conclude that an imperative cannot be a clause lacking a TP, whatever its structure may be (i.e., whether it is merely a TP or a fully blown CP with FinP, MoodP, and TP; cf. Rizzi 1997). Crucially, though, I take imperatives to be carrying T, having the same structure as finite clauses (see below for details and structure).

Syntactic subjects in Slovenian imperatives are restricted to 2SG and 1DU/PL and 2DU/PL subjects as we saw above. However, subjects are almost always phonologically null (*pro*). Overt subjects are possible for contrast and/or emphasis, similar to the English scenario:

- (4) Ukazal je, da ti delaj. [stressed *ti*]
 ordered is that you_{2SG} work_{2SGIMP}
 'He ordered you to work/that you (must/should) work.'

S&G argue that the subject characteristics (of embedded imperatives) cannot but show that imperative phrase makers must be—in their words—finite. They claim that the subjects of embedded imperatives seem to exhibit the same syntactic characteristics as the subjects of matrix imperatives (in (5) below), which—in turn—exhibit the same syntactic characteristics as the subjects of—in their words—finite clauses (with corresponding examples in (6)):

- (5) a. they can bind an anaphor in VP ((6)a);
 b. they control the PRO subject of non-finite complements ((6)b);
 c. they agree with predicatively used adjectives and past participles ((6)c)
- (6) a. Rekel je, da si kupi kolo.
 said is that *pro* yourself buy_{2SGIMP} bicycle
 'He said that you must buy yourself a bicycle.'
- b. Rekel je, da se navadi pospraviti svojo sobo.
 said is that *pro* refl get used_{2SGIMP} *PRO* to clean up your room
 'He said that you should learn to clean up your room.'
- c. Rekel je, da bodite previdni.
 said is that be_{2PLIMP} *pro* careful_{PLMASC}
 'He said that you (three or more) must be careful.'

Though the examples in (6) above show that there must be a TP present in the embedded structure (after all, there is an overt C in the lower CP), the properties in (5) themselves do not entail that the embedded clause must be 'finite' in traditional sense, contrary to what S&G conclude. Embedded nonfinite complement clauses, in fact, show the very same characteristics. This is clearer in English, for example, where nonfinite complementation is very common, as in *She wanted you to buy yourself a bicycle* with [*to buy yourself a bicycle*] as a nonfinite complement where the subject *you* binds the anaphor *yourself*. S&G's conclusion about 'finiteness' in traditional sense then follows solely from the distributional facts on [+finite] and [-finite] clauses in terms of the presence of the complementizer *da*⁴.

With respect to negation, the Neg head *ne* always precedes the conjugated verb in both matrix and embedded imperative contexts:

⁴ Moreover, on a conceptual level, if the subject agreement features are assumed to be shared by *pro*, which is a standard assumption in the generative literature, then *pro* must be referential. This seems to rule out P&R's proposal on the absence of TP in imperative clauses for P&R explicitly claim that subject agreement (and aspect) features are unrelated to finiteness; and that would mean that in the system we are proposing, the subject agreement features have no referential role. It is not clear in what particular sense P&R claim that the subject agreement features are non-referential in this sense (cf. S&G).

- (7) a. Ne delaj tako počasi!
 not work_{2SGIMP} so slowly
 'Don't work so slowly.'
- b. Rekel je, da ne delaj tako počasi.
 said is that not work_{2SGIMP} so slowly
 'He said that you shouldn't/mustn't work so slowly.'

Sentential negation in Slovenian is generally expressed by *ne* in preverbal position in indicative clauses. Based on word order facts with respect to pronominal clitic placement and negation, Milojević Sheppard and Golden (2000) propose the following clausal structure for both indicatives and imperatives:

- (8) CP > AgrsP > NegP > TP

Together with the tensed verb, the Neg head functions as a first position (1P) constituent with respect to clitic placement. A fairly standard assumption with respect to constituent positions is shown in (9) below, where the verb has moved to C, which hosts second position (2P) pronominal clitics, with the negation marker having moved along with:

- (9) Ne pokažem ti ga.
 not show_{1SGPRESIND} you_{CLDATSG} it_{CLACC5G}
 1P 2P 3P
 'I'm not showing/won't show it to you.'

Though Slovenian is a typical 2P clitics language, pronominal clitics can sometimes be sentence-initial in cases with omitted question particles:

- (10) a. Daj mi mir!
 give_{2SGIMP} me_{CLDATSG} peace
 'Leave me alone.'
- vs.
- b. Mi lahko prineseš vodo? (=Ali mi...?)
 me_{CLDATSG} can bring_{2SGPRESIND} water (=Q me...?)
 'Can you bring me water?'

However, clitics cannot precede the imperative verb (*CL + V_{IMP}) in matrix imperatives, where the only possible order is V_{IMP} + CL:

- (11) a. Poslušaj ga, če hočeš.
 Listen_{2SGIMP} him_{CLDATSG} if want_{2SGPRESIND}
 'Listen to him if you want.'
- b. *Ga poslušaj, če hočeš.
 him_{CLDATSG} listen_{2SGIMP} if want_{2SGPRESIND}

In interaction with clitics, negation yields the word order Neg + V_{IND} + CL, as shown in the examples in (12) below:

- (12) a. Ne pojem ga.
 not eat_{1SGPRESIND} it_{CLACCSG}
 'I don't eat it.'
- b. *Ne ga pojem.
 not it_{CLACCSG} eat_{1SGPRESIND}
- c. Ne bom ga pojedel.
 not be_{1SGFUTIND} it_{CLACCSG} eaten
- d. *Ne ga bom pojedel.
 not it_{CLACCSG} be_{1SGFUTIND} eaten

Hence, with respect to clitic placement, Slovenian matrix imperatives show the same word order as indicative clauses (Neg + V_{IND/IMP} + CL).

The issue of how sentential force arises in the clause is a separate one. While Milojević Sheppard and Golden (2000) follow the 'classic' accounts of force (as in Chomsky 1995, Rizzi 1997, etc.), I have hypothesized previously (Rus 2005) that all that narrow syntax needs to do in the phrase structure is to check off (license) the verb clothed with morphological marking in the Mood (M) head. Following Zanuttini and Portner (2003), I take that sentential force is arrived at via syntax/semantics and discourse. I furthermore also adopt a 'hybrid' approach—similar to Isac and Jakab (1997)—motivating an additional Mood projection that dominates T. More importantly, though, this account still crucially takes imperative clauses as having the same representation as indicatives. Hence, I posit that cross-linguistically, imperative verbs will move overtly or covertly either from V to M or from V to C via M, the clitics being adjoined to some TP projection or having moved to C together with the verb⁵:

⁵ This analysis hence suggests that all imperatives will check imperative morphology via V-to-M movement in both matrix and subordinate clauses. In

- (13) a. [CP [MP V_{IMP} [TP CL]]] /matrix clauses/
 b. [CP V_{IMP} CL [MP ... [TP...]]] /matrix clauses/
 c. ... [CP C [MP CL V_{IMP} [TP ...]]] /embedded clauses/

To summarize, the above analysis of the morphosyntactic properties of Slovenian imperatives with respect to the properties generally studied in relation to such clauses shows that imperatives cannot be taken to be lacking T in their phrase markers⁶.

3 Imperatives in Child Slovenian: Further Evidence for T

Independent of the current study, Rus and Chandra (2006b) showed that child Slovenian offers some further support for the hypothesis of imperatives being non-T representations. Their study is a reply to Salustri and Hyams' (2003) study, which argues that imperatives in child Italian have the same status as Root Infinitives (RIs) in German and French, namely (1) they do not (generally) carry 'finite' morphology; (2) they display similar modal meanings; (3) they are restricted to eventive predicates; and (4) they are much more frequent in child speech than in the respective child-directed speech.

Following Han (2001), Salustri and Hyams (*ibid*) (henceforth, S&H) characterize an imperative as a verbal form marked with an 'irrealis' feature, further assuming that the imperative verb checks the irrealis and 'directive' features on Mood and Force heads respectively. For the irrealis feature on Mood to be checked against the verb in a local configuration—

matrix clauses only, however, movement can be longer, i.e., with verbs moving all the way to C. This operation may arise for independent reasons, e.g., when a clitic is in P1 position in [Spec, CP] with the imperative verb in C, or when there is a phrase in P1 providing a host for a clitic in P2 as a consequence of the Wackernagel effect. In embedded contexts imperative verbs do not move to C—C is filled with a complementizer blocking movement. Such an approach to the phrase structure in Slovenian captures all attested word orders with respect to imperatives in both matrix and embedded contexts.

⁶ As Bohnacker (1999) shows, Icelandic imperatives behave in a similar fashion in that they have a separate morphological paradigm, distinct from all other 'finite' and 'nonfinite' forms and exhibit the same word order facts as indicative clauses with respect to negation and adverb placement. Icelandic makes an even stronger case for my argument, though, because verb raising past negation and adverbs is very regular. In Icelandic imperatives, verb raising is the same as in indicatives and different from verb raising in infinitival clauses (for details, see Bohnacker 1999).

namely head-head relation—S&H invoke what they term “feature underspecification”, basically referring to TP/AgrP/Asp elimination⁷.

The mechanism behind underspecification in child grammars as presented in S&H is largely unmotivated. Underspecification is an operation akin to other deletion operations and as such carries some computational cost. Hence, it is not obvious why child grammars would prefer underspecification to *Move*. S&H conveniently fail to address this issue, particularly when arguing that imperatives in child Italian (and other pro-drop languages with rich morphology) involve both *Move* and underspecification. This casts doubt on their claim that IMPs in Italian and Italian-like languages are more economical derivations than RIs and are analogous to RIs.

S&H seem to be right in hypothesizing that early null subject languages will show a high number of imperatives, though they claim that early imperatives are RIs with no real Agr/T and those that do show agreement, are simply spelled-out default forms. Our data (reported below), however, show that early imperatives are productive in the sense that they appear with different verb types and verb tokens. Furthermore, early Slovenian imperatives carry correct adult-like inflection and appear correctly in adult contexts with clitics that speak for the presence of T. Last but not least, early imperatives appear in a non-adult context of object scrambling that nevertheless speaks for the presence of T (see below).

The data for the present study constitute part of a bigger database of naturalistic production data coming from 15 children and collected over a 3-month period (for details, see Rus and Chandra 2005). The children’s

⁷ Crucially for S&H, the technology adopted for IMPs is the same as for RIs. Infinitivals (INFs) have an irrealis feature that is checked against MoodP and a local checking relation is rendered possible only by underspecifying intermediate projections. IMPs and RIs are thus outcomes of the same underlying structures, and subsequently share temporal, modal, and aspectual interpretations. This claim concurs well with their general views on the transition from RI/RI-analogue states to adult systems. As spelled out somewhat more clearly in Hyams (2005), the core idea is that the transition takes place when modals become more productive, indicating the ‘emergence’ of functional layers such as TP, AgrP, and AspP. It is at this stage of development, Hyams argues, that the operation of Merge takes precedence over *Move*, and the latter, a ‘more marked’ feature-checking option is pushed out of the grammar. Arguably, adult systems make use of underspecification as well.

mean MLU was 1.94. Table 2 below shows the data with respect to utterance type.

Table 2: Utterance types in child Slovenian

Types	Imperatives	Past Participles	Other
Total #	679	197	329
%	56.4	16.3	27.3

As we see in Table 2, the number of imperatives in our data is extremely high, with practically every other utterance being an imperative. These, however, appear with a variety of verbs and verb patterns, as seen in the examples below:

- (14) a. Čaki! (Vesna, 1;7)
 wait_{2SGIMP}
 ‘Wait.’
- b. Glej jih! (Lenart, 1;11)
 look_{2SGIMP} them_{CLACCPL}
 ‘Look at them.’
- c. Vesna, (d)ej meni! (Doroteja, 1;11)
 Vesna_{NOMSG} give_{2SGIMP} me_{CLDATSG}
 ‘Vesna, give it to me.’
- d. Tuki makni tole! (Kaja, 1;11)
 here move_{2SGIMP} this_{SGACC}
 ‘Move this in here.’

Child imperatives bear adult-like agreement morphology. The suppliance of agreement is schematized in Table 3, showing that agreement reaches almost 100% correct⁸.

⁸ A partial paradigm (with _{2SG} forms only) should not be taken as absence of T/Agr, contrary to what one reviewer suggests. To illustrate the point in case, when Valian (1991) argued that what looked as occasional ‘finite’ V_s in early child English were simply V_s with ‘attached’ T/Agr inflections in the VP, a number of acquisitionists protested that it is impossible to accommodate overt T/Agr inflections without positing the existence of T/Agr projections in the grammar (cf. Guasti 1993/4; Hyams 1992). They concluded that early V_s show a full clause structure with at least T/Agr if not even CP and that despite the incomplete paradigm, children know ‘finiteness’. In line with this conclusion, the

presence of T. I interpret this as a piece of evidence of how child language data can in fact inform linguistic theory, similarly to Guasti and Rizzi's (2000) conclusion.

Some imperative constructions sometimes appear with reflexive clitics, which are standardly assumed to be either generated directly in T or moved to the T-domain (S&G):

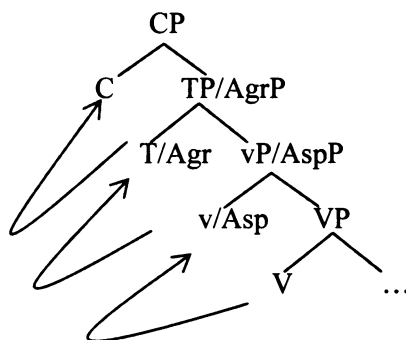
- (16) Se obuj teta! (Vesna, 1;7)
 refl put on (shoes)_{2SGIMP} auntie_{NOMSG}
 'Put on your shoes, auntie/woman.'

Last but not least, the examples below in (17) show an imperative verb raising to the C-domain with the clitics in the T-domain (with adult-like case and agreement marking):

- (17) a. Iski ga! (=Išči ga!) (Katja, 1;10)
 search_{2SGIMP} it_{CLACC SGMASC}
 'Look for it.'
- b. Glej jih! (Lenart, 1;11)
 look_{2SGIMP} them_{CLACC PL MASC}
 'Look at them.'
- c. Dej mi ga! (Tomaž, 1;10)
 give_{2SGIMP} me_{CLDATSG} it_{CLACC SGMASC}
 'Give it to me.'
- d. Biba, biba, lej jo. (Katja, 1;10)
 creepy-crawley_{NOMFEM} look it_{CLACC SGFEM}
 'Creepy-crawley, look at it.'

Following standard generative theories on adult imperatives (e.g., Han 2001) and to be as consistent as possible with the S&H account, I will also assume here that early Slovenian imperatives carry an irrealis/mood feature located in C/Mood that must be checked by the raising of the imperative verb. However, to capture agreement, as well as the word order facts presented above, I propose 'classic' successive-cyclic movement of the V via v/Asp and T/Agr. In this analysis then, the V_{IMP} checks the irrealis feature in a local head-head configuration as illustrated below in (18):

(18)



This analysis is consistent with our (conceptual and empirical) arguments against T/Agr elimination as well as with respect to economy considerations regarding local feature checking. It also has two immediate advantages. First, it captures the agreement patterns observed in the imperatives; and second, it is explanatorily more desirable by undermining an operation like TP-underspecification in child grammars.

We saw that child Slovenian imperatives show perfect [person] [number] agreement morphology, exhibit (adult-like) clitic placement as well as object scrambling. Hence, I conclude that child Slovenian imperatives do not lack the T/Agr projections and that imperatives in null subject languages like Slovenian are not analogous to RIs. That said, however, I would like to address one further issue that has appeared recently to discredit the account and conclusions that I presented here.

Hyams (p.c.) posits that imperative clauses in our data may simply be ‘hidden subjunctives’. There is indeed no (separate) morphological verb paradigm for subjunctives, which may suggest that semantically children’s imperatives might be ‘subjunctive-like’ clauses, expressing irrealis meaning (volition, intention), which is basically what imperatives are *prima facie*. However, imperatives in our data preserve the directive force, which argues against extending a ‘subjunctive’ status to them. In other words, subjunctive is a verbal form that can have various force interpretations—an imperative force interpretation among them—but an imperative, on the other hand, cannot have a ‘subjunctive-like’ force interpretation from a semantic perspective (Zanuttini p.c.). Moreover—and crucially for the present purposes—subjunctive clauses would still contain a TP in their phrase markers.

4 Conclusion

On the basis of adult and child Slovenian, this paper argued against the syntactic accounts that propose that imperative clauses are clauses with degenerate or no T. Explicating and extending the analysis in Milojević Sheppard and Golden (2000, 2002), the paper explored imperative morphology and word order and distributional facts found in Slovenian imperatives, arguing that imperatives should be taken to be T-based in the sense that they cannot be devoid of T/Agr or have an incomplete/impoorished T/Agr head. The paper further argued against Salustri and Hyams' (2003) hypothesis that imperatives in early (pro-drop) morphologically rich languages are RI-analogues. Specifically, the paper argued that early imperatives show morphological productivity and that an incomplete paradigm cannot be taken as evidence for non-knowledge or absence of T/Agr, and that imperatives cannot be merely spelled-out default forms with only 'apparent' functional material. On the basis of child Slovenian data on object scrambling and pronominal and reflexive clitic placement, the paper concluded that both adult and non-adult child language data can and should inform linguistic theory.

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The Syntactic Properties and Diachronic Development of Postnominal Adjectives in Polish*

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Typical adjectival modifiers precede nouns in Modern Polish. However, classifying adjectives (i.e. elements which subclassify the reference of the noun) appear in postposition. This paper focuses on the postnominal placement of adjectives in Polish, exploring it from a synchronic and diachronic perspective. I will first briefly discuss the ClassP (Classification Phrase) hypothesis put forward in Rutkowski and Progovac (2005) (subsection 1.1) and attempt to show why Trugman's (2005) account of Russian postnominal adjectives is not applicable to Polish (subsection 1.2). I will also draw a parallel between the ClassP analysis of Polish N-A sequences and Pereltsvaig's (2006) account of approximative numerical expressions (subsection 1.3). Section 2 traces the historical source of the N-A classifying construction (subsection 2.1) and provides an account of the syntactic reanalysis that the construction in question has undergone in the history of Polish (subsection 2.2). The last section of this paper is devoted to a unified analysis of classifying

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adjectival expressions, pseudo-partitives, and structures with classifiers. I will propose that all of them involve the same functional projection located immediately above NP (which I will refer to as nP). I will argue that the syntactic activation of what Rutkowski and Progovac (2005) call ClassP would not have been possible in the historical development of Polish had it not made use of a more general syntactic configuration (nP), provided by Universal Grammar.

1 N-A Structures in Modern Polish

1.1 *Rutkowski and Progovac (2005)*

This subsection presents an overview of the analysis of classifying adjectives proposed in Rutkowski and Progovac (2005), henceforth RP. RP's aim is to account for the fact that regular adjectival modifiers usually precede the head noun in Polish, whereas classifying adjectives appear in postposition. As opposed to typical non-restrictive qualifying adjectives, classifying elements indicate a certain class (category, type) that the denoted entity belongs to (see e.g. Warren 1984).¹ It should be noted that the postnominal placement of adjectives in classificatory expressions is obligatory in Polish: this requirement is not conditioned stylistically or contextually. Thus, the phenomenon in question is different from what Trugman (2005) describes as classifying structures in Russian. The Russian N-A pattern seems to be optional and restricted to scientific terms and formal/official product names used in trade. In Polish, the classifying configuration is very productive and appears in all kinds of contexts, as the following non-terminological examples of everyday vocabulary illustrate:²

- (1) a. koło zapasowe
 wheel spare
 'spare wheel'
 b. *zapasowe koło

¹ See also Willim (2000a) for a detailed discussion of the semantic relationship between the classifying adjective and the head noun.

² Note that examples in this subsection do not come from RP.

- (2) a. powieść kryminalna
 novel criminal
 'detective story'
 b. *kryminalna powieść
- (3) a. pismo pornograficzne
 magazine pornographic
 'pornographic magazine'
 b. *pornograficzne pismo

Note that, strictly speaking, the starred structures in (1b-3b) are not ungrammatical. Nevertheless, they are clearly infelicitous because they imply an attributive reading, which is unnatural in the case of the above examples. For instance, (3b) would be acceptable if it denoted a magazine that *happened* to be pornographic. However, such a context is rather unlikely. Although examples (1a-3a) do not seem to have obvious attributive equivalents, RP show that it is possible for the same adjective to be used both classificatorily and attributively. Compare the following pair of expressions:

- (4) a. linia krzywa
 line curved
 'curve (a type of line)'
 b. krzywa linia
 'curved line (a line that happens to be curved)'

According to the analysis put forward in RP, the surface location of classifying adjectives in all the above examples results from overt N-raising: the noun moves from N (its underlying position) to the head of a higher functional projection (tentatively labelled ClassP – Classification Phrase), located immediately above NP.³ In principle, there are no restrictions as to what kind of adjectives may be interpreted as

³ For a different analysis of classifying N-A structures which is also based on overt N-raising, see Willim (2000a) and (2001). According to Willim, the noun moves to the head of K(ase)P(hrase), the highest functional projection in the nominal complex, whilst the classifying adjective is located in the specifier of Num(ber)P(hrase). However, Willim does not make it clear why the Spec-NumP position is accessible to classifying adjectives but not to qualifying ones.

classifying.⁴ According to RP's account, the classificatory reading is obligatory as long as the head noun is raised to Class.⁵

In structures with multiple adjectives it is always the postposed one that is interpreted as classifying. Note that both (5) and (6) are, in principle, grammatical (although only (5) is actually used to refer to the 'National Bank of Poland'):

(5) Narodowy Bank Polski
national bank Polish
'national bank of Poland'

(6) Polski Bank Narodowy

Depending on which adjective appears postnominally, the bank in the above examples is classified as belonging either to the class of Polish banks or to the class of national banks. Both classifications are conceivable, although the semantic difference involved is slight. However, in the case of (7-8) the same kind of difference is crucial for correct interpretation:

(7) mały pancernik olbrzymi
small armadillo giant
'a small giant armadillo'

(8) olbrzymi pancernik mały
'a giant dwarf armadillo'

Example (7) denotes a giant armadillo (i.e. a representative of the species *Priodontes maximus*) that happens to be small; on the other hand, example (8) refers to a dwarf armadillo (*Zaedyus pichiy*) that happens to be very big.

⁴ This observation is also made by Willim (2000a), who argues that the classifying/qualifying distinction does not derive from the semantic properties of a particular adjectival lexeme. Instead, she proposes that the dichotomy in question is conditioned pragmatically.

⁵ RP and Rutkowski and Progovic (2006) show that N-to-Class movement need not be overt: it is covert in Serbian and Lithuanian classifying constructions.

1.2 Trugman (2005)

Traditional grammars of Polish say that the function of classifying adjectives is to indicate a distinctive feature of the denoted entity: such a feature has been referred to as “permanent” (Klemensiewicz 1948: 58-60), “essential” (Brajerski 1959: 169), or “generic” (Rospond 2003: 197). However, the term “generic” (*gatunkowy* in Polish) might be misleading. It should be stressed that Polish classifying expressions are not necessarily generic. Therefore, they are different from the Russian N-A structures analyzed by Trugman (2005). She shows that, in Russian, expressions with postnominal adjectives cannot be object-referring. This is definitely not the case in Polish, as illustrated below:

- (9) a. Silnik odrzutowy jest wspaniałym wynalazkiem.
 engine jet-adj is wonderful invention
 ‘The jet engine is a wonderful invention.’
 b. *Odrzutowy silnik jest wspaniałym wynalazkiem.
- (10) a. Ten silnik odrzutowy jest zepsuty.
 this engine jet-adj is broken
 ‘This jet engine is broken.’
 b. *Ten odrzutowy silnik jest zepsuty.

The N-A expression *silnik odrzutowy* ‘jet engine’ may be kind-referring/generic (9a) or object-referring (10a); it is grammatical both with individual-level and stage-level predicates, unlike postpositional adjectival structures in Russian. Trugman (2005) assumes that the generic interpretation of the Russian N-A construction is derived by overt N-to-D movement (this movement is explained as a mechanism which licenses a phonologically null D, à la Longobardi’s 1994 model of N-raising in Romance). Additionally, Trugman (2005) proposes that the noun cyclically adjoins to its premodifiers, pied-piping them in a snowball fashion, and dragging the whole complex to D. However, neither this complex scenario, nor a simple N-to-D approach can be used to account for the syntax of Polish classifying structures. Examples such as (11) show that there are no reasons to assume that N-raising in Polish classifying expressions targets D, and not Class.

- (11) pięć zepsutych silników_i odrzutowych t_i
 five broken engines jet-adj
 ‘five broken jet engines’

If the noun moved directly to D, it would be expected to surface in front of numerals and attributive adjectives, which are best analyzed as located in the region between D and N (cf. Rutkowski 2002).⁶ As shown above, this prediction is wrong.

According to the ClassP model presented in RP, the classifying adjective is located in the specifier of NP. Hence, the number of classifying elements in a classifying nominal expression is limited to one.⁷ Trugman (2005) argues against this analysis. She discusses constructions

⁶ An anonymous reviewer argues that the position of Polish numerals is not necessarily fixed between D and N. Following Willim (2000b), the reviewer notices that cardinals may either precede or follow possessive pronouns, as illustrated below:

- (i) *moje* *trzy* *siostry*
 my three sisters
 ‘my three sisters’
- (ii) *trzy* *moje* *siostry*
 three my sisters
 ‘three of my sisters’

If possessive pronouns are analyzed as residing in the DP layer, the position of the cardinal numeral seems to be unclear. Reasons of space prevent a detailed discussion of this issue in the present paper. I assume that, being adjectives and not determiners, Polish possessive pronouns need not be base generated exclusively in the DP layer. Similarly to other adjectives (including demonstratives), they may appear at various levels in the Polish DP structure. Note that the inversion shown in (i-ii) is not possible in structures with elements which are always base generated relatively high in the nominal structure (i.e. above the position of the cardinal numeral), such as the general quantifier *wszyscy* ‘all’:

- (iii) *wszystkie* *trzy* *siostry*
 all three sisters
 ‘all three sisters’
- (iv) **trzy* *wszystkie* *siostry*
 three all sisters
 int. ‘three of all the sisters’

For a fuller discussion of the syntax of cardinal numerals in Polish, the reader is referred to Rutkowski and Maliszewska (2007).

⁷ Note that this restriction does not apply to qualifying adjectives, which can be stacked pronominally because they reside in iterable functional projections above NP.

that seem to be problematic from the point of view of the ClassP model because they include more than one postnominal modifier:

- (12) tłuszcz roślinny częściowo utwardzony
oil vegetable partly hydrogenated
'partly hydrogenated vegetable oil'

However, I treat elements such as *częściowo utwardzony* 'partly hydrogenated' in (12) as reduced relative clauses. Trugman (2005) points out that classifying postmodifiers should not be analyzed in this way because they cannot be replaced with full relative clauses. This generalization seems true for Polish classifying elements; for instance, (13) is not necessarily synonymous with (14) (note that classifying expressions often become idiomatic).

- (13) pancernik mały
armadillo small
'dwarf armadillo (*Zaedyus pichiy*)'

- (14) pancernik, który jest mały
armadillo which is small
'armadillo which is small'

However, it seems that the above observation holds only for those adjectives which surface immediately after the noun. Other postnominal modifiers seem to be easily acceptable in full relative clauses; note that there is no semantic difference between (15) and (16):

- (15) tłuszcz roślinny częściowo utwardzony
oil vegetable-adj partly hydrogenated
'partly hydrogenated vegetable oil'

- (16) tłuszcz roślinny, który jest częściowo utwardzony
oil vegetable-adj which is partly hydrogenated
'vegetable oil which is partly hydrogenated'

There are at least two more arguments for treating elements such as *częściowo utwardzony* 'partly hydrogenated' in (12) as reduced relative clauses, and not as classifying elements. Firstly, they are often separated from the N-A classifying structure by a phonetic pause. Secondly, and

more importantly, they may as well be placed prenominally, as the following example illustrates:

- (17) częściowo utwardzony tłuszcz roślinny
 partly hydrogenated oil vegetable-adj
 'partly hydrogenated vegetable oil'

Note that such a relocation is absolutely impossible in the case of classifying elements (i.e. those adjectives that are placed immediately after the head noun):

- (18) *częściowo utwardzony roślinny tłuszcz
 partly hydrogenated vegetable-adj oil

Having taken into consideration all the above evidence, I conclude that the analysis proposed by Trugman (2005) is not applicable to classifying N-A structures in Polish.

1.3 An Analogy to N-to-Class Raising: Approximative Shift in Russian

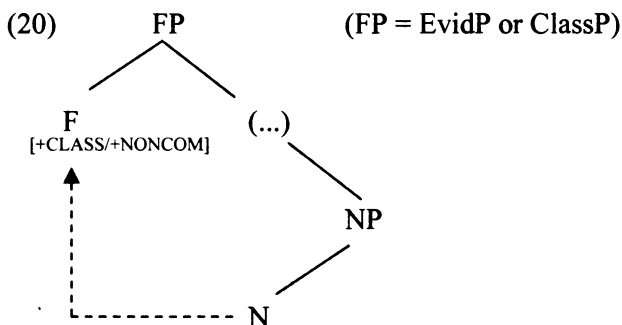
An important corollary of RP's proposal is that N-raising may result in a semantic change. This could be viewed as problematic if movement is assumed to be a mechanism of feature checking that should not have impact on the interpretation of the whole expression. Note, however, that according to the ClassP model, it is not N-movement itself that yields the classificatory interpretation, but rather the presence of the Class head. I assume that the Class head is optional, but when it is present, it is associated with a formal feature which attracts the head noun.

Interestingly, the operation of N-to-Class raising does not seem to be an isolated phenomenon among Slavic languages. There seems to be at least one more example of overt N-raising with analogous semantic implications. As shown by Franks (1995) and Pereltsvaig (2006), among others, N-raising in Russian numerical expression can lead to an approximative reading:

- (19) a. desjat' knig
 ten books
 'ten books'
 b. knig desjat'
 'approximately ten books'

The above phenomenon is exactly parallel to what happens in classifying structures in Polish – compare the examples in (4a-b). In both cases the difference in meaning is based on the word order of the head noun (lexical elements and case marking being exactly the same).

Pereltsvaig (2006) proposes that the Russian approximative inversion results from the head noun being moved to a higher functional phrase, which she labels EvidP (Evidential Phrase). She further argues that the approximative N-raising is triggered by the feature [+NONCOMITTAL] (expressing the speaker's uncertainty about the exact number), which is merged in the Evid head. Note that the above derivation corresponds to RP's account of classifying expressions. In the latter case, it could be assumed that the noun is raised in order to check a classifying feature merged in Class. The two N-raising analyses discussed here might be illustrated in the following simplified way:



In both cases, a feature hosted in a functional projection makes the noun move from N to the head of that projection, crossing the material which is base generated in between.

2 N-A structures in Old Polish

2.1 *Appositive Clarification Constructions*

The aim of this subsection is to explore the historical origin of the Modern Polish N-A construction discussed above. First, it should be noted that the classifying structure is not inherited from Old Slavic. As pointed out in many traditional grammars (see e.g. Brajerski 1959, 1963, Rospond 2003, among others), adjectives started to be placed in postposition in Old Polish as a result of Latin influence (in Latin, attributive adjectives

normally appear after the head noun).⁸ Brajerski (1963) provides interesting evidence that the “inverted” Latin-based N-A structure became common in Old Polish in the second half of the fifteenth century (his study focuses on the word order of adjectival possessive elements). That change in the grammatical system of Old Polish resulted in the emergence of another innovative structure: namely, a prepositional construction in which the preposition was doubled (it appeared before both the head noun and the postnominal modifier):

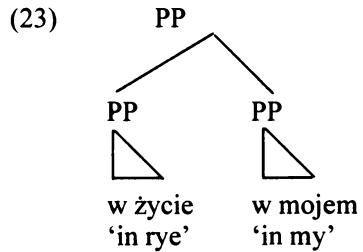
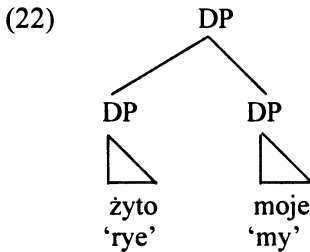
- (21) w życie w mojem
 in rye in my
 ‘in my rye’

Brajerski (1963) analyzes examples such as (21) as clarifying constructions which should be interpreted in the following way: ‘in rye, that is to say in my rye’ – see Rutkowski (2006b) for more details. The syntactic structure of the N-A sequence must have been perceived as more complex than that of the regular A-N attributive construction: note that the phenomenon of preposition doubling is attested only in the form P-N-P-A, and not P-A-P-N. The latter might have been possible too but it would have required an unexpected clarification context (‘in mine, that is to say in my rye’).

The preposition repetition data indicates that the postnominal modifier was in a way “detached” from the head noun, it had an “adjunctive” function. Thus, it seems plausible to treat it as an appositive DP (or PP, if preceded by a preposition). I analyze the appositive DP/PP as adjoined to the DP which contains the modified noun.⁹

⁸ Certain sociolinguistic aspects of this contact-induced syntactic calque are discussed in Rutkowski (2006b) (where the emergence of postnominal adjectives in Old Polish is interpreted as an example of learned/elite-governed influence – à la Pountain 1998 and van Marle 2003).

⁹ As the question of the theoretical status of adjunction is not crucial for the present discussion, I leave it aside and simply assume that the operation of adjunction does not change the label of its input phrase: [_{XP} [_{XP} X] ADJUNCT].



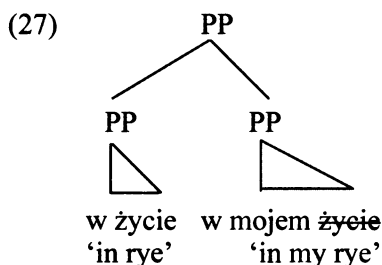
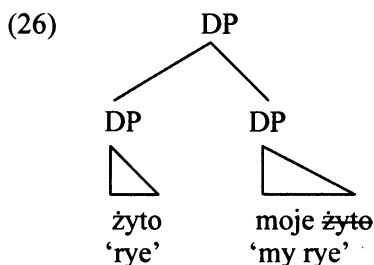
Interestingly, Yadroff (1999) shows that the phenomenon of preposition repetition is also attested in Old Russian. Moreover, in this case, not only postnominal modifiers (24), but also regular appositive nominal structures (25) seem to admit doubled prepositions.

(24) iz kamnja iz černago
 from stone from black
 'from black stone'

(25) v gorod v Veneceju
 into city into Venice
 'into the city of Venice'

Although Yadroff (1999) does not analyze the structure in (24) as appositive, the parallel between (24) and (25) seems to support the structural interpretation given in (23). The appositive analysis also patterns with Brajerski's (1963) comments on the original semantics of expressions such as (21). Hence, I assume that the nature of the phenomenon of preposition doubling was the same in Old Polish and Old Russian.

It should be underlined that the postnominal adjective in constructions such as (22) agrees with the head noun in number, case, and gender, although the two elements belong to two separate DPs. If we assume that agreement is a local phenomenon, the adjective should not be able to agree with a noun which is not located in the same DP. Therefore, I argue that in structures such as (22), the modified noun is present in both DPs, one copy being subject to ellipsis under identity (the same is true for structures with doubled prepositions):



The ellipsis analysis finds support in the fact that, as noted by Brajerski (1963), Old Polish third-person possessive pronouns are placed in postposition significantly less frequently than first and second-person possessive pronouns. This observation can be straightforwardly accounted for by assuming that ellipsis must be licensed by adjectival morphology (see e.g. Lobeck 1995). Under this assumption, the third-person possessive pronouns *jego* 'his', *jej* 'her', *ich* 'their' cannot function as ellipsis-licensors because, from the morphological point of view, they are genitival forms of the personal pronouns *on* 'he', *ona* 'she', *oni* 'they' (which means that they do not exhibit adjectival morphology).

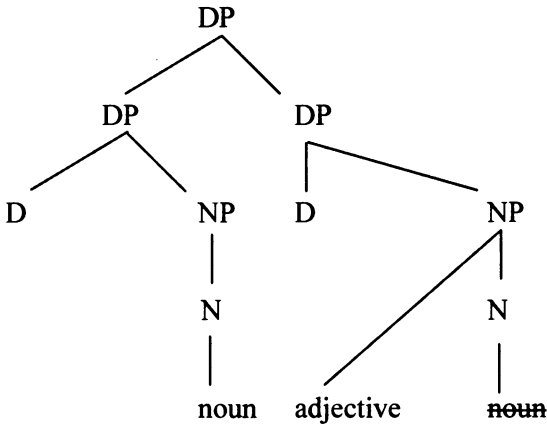
2.2 Diachronic Syntactic Reanalysis in N-A Structures

If RP's model is correct, one needs to account for the diachronic difference between the Old Polish apposition structure and the Modern Polish ClassP configuration. In Modern Polish the phenomenon of preposition repetition is not grammatical (compare (3) and (28)):

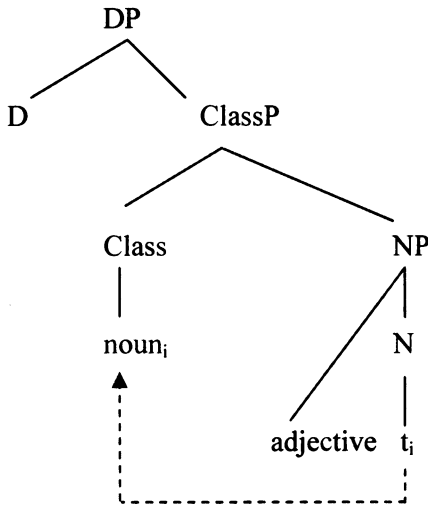
- (28) a. w piśmie pornograficznym
in magazine pornographic
'in a pornographic magazine'
- b. *w piśmie w pornograficznym

This suggests that Modern Polish postnominal modifiers are not appositive. Instead of merging two separate DPs in a complex appositive fashion, the bi-phrasal construction has been reduced to a single DP. At some point between the Old Polish period and now, the interpretation of the N-A sequence started to shift from clarification to classification (see Rutkowski 2006b). This semantic change was accompanied by the structural reanalysis illustrated in (29) and (30).

(29) Old Polish bi-phrasal structure



(30) Modern Polish mono-phrasal structure



Note that it is possible that the Russian approximative construction discussed in subsection 1.3 evolved in exactly the same way: a bi-phrasal structure was reanalyzed as mono-phrasal when the postnominal word order became associated with a specific reading (that of approximation).

The reanalysis illustrated in (29) and (30) has taken place because of

the activation of a functional projection associated with the classifying interpretation (ClassP). I assume that, at some point, the syntactic status of the higher N position underwent a reanalysis from lexicality to functionality. The acquisition process which underlay this change could have proceeded as follows: the child acquiring the N-A construction interpreted the higher noun as placed in a functional projection (Class) and deduced from that that the noun had been raised from its base position in the lower N. Therefore, the whole structure was reinterpreted as monophrasal, with only one occurrence of the head noun. It does not seem plausible that the Classification projection is language-specific. I assume that the appositive structure in (29) could not have been reanalyzed as (30) if the ClassP configuration was not part of Universal Grammar (note, however, that its universality does not imply that ClassP must be active in *all* languages). Therefore, in the last section of this paper, I will try to examine the status of ClassP in Universal Grammar.

3 What is ClassP?

I argue that what RP tentatively label as ClassP is in fact a functional nominal projection that can be activated syntactically in (at least) three different ways. I will refer to that projection as nP, in order not to limit its syntactic role to any particular semantic interpretation. Besides being involved in classifying expressions of the type discussed in section 1, nP can also host pseudo-partitive elements and classifiers. This two kinds of constructions are discussed below.

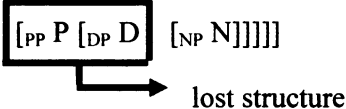
3.1 *ClassP = MP*

Many languages differentiate partitives proper from pseudo-partitives. This is illustrated below with examples from Swedish ((31), after Koptjevaskaja-Tamm 2001) and Greek ((32), after Stickney 2004):

- (31) a. en kopp av detta te [partitive]
 a cup of this tea
 ‘a cup of this tea’
- b. en kopp te [pseudo-partitive]
 a cup tea
 ‘a cup of tea’
- (32) a. mia kouta me ta vivlia [partitive]
 a box with the books
 ‘a box of the books’

- b. mia kouta vivlia [pseudo-partitive]
 a box books
 'a box of books'

This distinction may be defined semantically: partitives refer to a part/subset of a superset, whereas pseudo-partitives indicate an amount (quantity) of some substance (cf. Koptjevskaja-Tamm 2001). In terms of syntax, pseudo-partitives are generally less complex than partitives: the above Swedish and Greek pseudopartitive examples differ from the partitive ones by not allowing determiners or prepositions to intervene between the measure element and the measured noun. Note also that, according to Koptjevskaja-Tamm (2001), pseudopartitives derive from partitives historically. As shown in Rutkowski (2006a), the above observations can be accounted for by assuming that pseudopartitives emerge when the first noun of the partitive structure is reanalyzed as a functional element (i.e. as the head of what Stickney 2004 calls Measure Phrase – MP). Such a reanalysis results in loss of structure:

- (33) [DP D [NP N [PP P [DP D [NP N]]]]] [partitive]
 lost structure

- (34) [DP D [MP M [NP N]]] [pseudo-partitive]

Interestingly, Stavrou (2003) points out that there is a syntactic correlation between classifying and pseudo-partitive expressions in Greek: namely, only classifying adjectives can intervene between the heads M and N in pseudo-partitives. Therefore, (35b) is ungrammatical (as opposed to *elafria* 'light', *frixta* 'terrible' is not a classifying adjective):

- (35) a. ena paketo me frixta tsigara [partitive]
 a pack with terrible cigarettes
 'a pack of terrible cigarettes'
 b. *ena paketo frixta tsigara [pseudo-partitive]
 a pack terrible cigarettes
 c. ena paketo elafria tsigara [pseudo-partitive]
 a pack light cigarettes
 'a pack of light cigarettes'

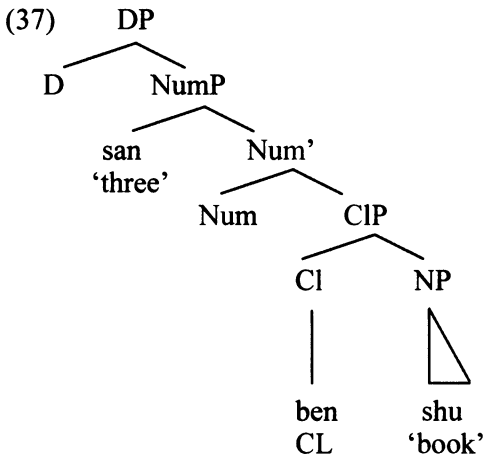
MP selects an NP complement, which explains why only classifying adjectives are grammatical in pseudo-partitive structures; recall that, according to RP's model, classifying modifiers are base generated in the specifier of NP, whereas qualifying adjectives are located above NP:

(36) [DP D [FP qualifying As [MP M [NP classifying A [N]]]]]

As shown in (35c), Greek does not have N-to-Class movement in classifying expressions. I argue that this fact can be accounted for by assuming that M and Class are two different labels for the same head (projected immediately above NP), which can be either occupied by a pseudo-partitive measure element (as in Greek) or targeted by N-raising (as in Polish). This hypothesis seems to be supported by the fact that Polish has no special syntactic construction that would correspond to the pseudo-partitive interpretation.

3.2 ClassP = CIP

According to many researchers, East Asian classifiers reside in a functional phrase above NP (see e.g. Li 1999). This kind of approach is illustrated in (37); the Chinese example *san ben shu* 'three books' is taken from Watanabe (2006).



In some studies, the above construction has been analyzed as parallel to the pseudo-partitive structure discussed in the previous subsection (see e.g. Chierchia 1998). Therefore, I argue that CIP is in fact another label

for the functional phrase projected immediately above NP. This proposal finds support in the fact that classifier languages such as Japanese do not seem to allow pseudo-partitive heads. Watanabe (2006) shows that measure elements such as the Japanese noun *donburi* ‘big bowl’ in (38) are themselves accompanied by a numeral+classifier combination (a specialized classifier *hai* is used when the measure noun denotes a container used for serving food and drinks):

- (38) Roger-wa gohan donburi-ni yon-hai-o tabeta.
 Roger-top rice big.bowl-dat 4-CL-acc ate
 ‘Roger ate four big bowls of rice.’

According to Watanabe (2006), the fact that the measure element requires a classifier in Japanese means that it is a separate DP, and not a functional element above NP. Therefore, I argue that languages such as Japanese do not have pseudo-partitives, i.e. structures in which the measure element is the head of a functional projection. The Japanese equivalents of expressions such as *a bottle of wine* must be treated as partitives proper. I conclude that, in languages such as Japanese, the presence of classifiers implies the lack of pseudo-partitive heads.

3.3 Summary: $nP = ClassP = MP = CIP$

The above observations are summarized in the following table:

Table 1. nP-related phenomena cross-linguistically

Phenomenon	Polish	Greek	Japanese
overt N-raising in classifying structures	✓	-	-
pseudo-partitives as functional heads	-	✓	-
classifiers as functional heads	-	-	✓

I propose that the three phenomena listed above occur in complementary distribution because they are all related to the same functional projection, which can be assigned a range of semantic functions. I tentatively label it nP (in order to remain neutral with respect to its semantics) and assume that it is projected universally. Its most important characteristic is that it is

located immediately above NP.¹⁰ As shown above, the nP layer hosts *either* classifiers *or* pseudo-partitives, *or* it attracts N-raising in classifying adjectival structures. Possibly, it has other functions as well but I leave this issue for further research.

4 Conclusion

In this paper, I have focused on the syntax of the Modern Polish classifying adjectival structure and the Old Polish appositive N-A construction. The diachronic relation between these two configurations has been analyzed as an example of syntactic reanalysis. I have also proposed that the syntax of classifying adjectival expressions might be related to other phenomena that involve a functional projection located immediately above NP (which I label nP).

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¹⁰ It should be stressed that I do not assume that nP is the *only* functional head in between D and N. There are definitely other functional projections above nP (for instance, phrases hosting cardinal numerals and quantifiers).

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On the Status of Word-Initial Clusters in Slavic (and Elsewhere)*

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1 Introduction

It is generally admitted that gaps in word-initial consonant clusters are systematic, not accidental. An oft-quoted illustration is the pair *blick* - *lbick*. Both items are not actual English words, however the former could be one because its initial cluster is well formed (sonority increases), while the latter could not for its initial cluster violates sonority sequencing. That sonority sequencing is a property of English grammar is shown by the different attitude that natives adopt in regard of the two words at hand: *lbick* is not a possible word for any speaker, while *blick* could enter the language at any time if it acquired a meaning.

The conclusion, then, is that the set of existing initial clusters in a language qualifies as a natural class and is defined by grammar. In the English case and in many other languages, the natural class in question may be described by the statement "within initial clusters, sonority must increase" (s+C clusters are well-known exceptions; they do not need to be further discussed here). On this count, non-occurring clusters such as #lb are absent since they violate grammar (systematic gap), not because of some lexical accident (accidental gap).

In this paper, I aim at showing that this line of reasoning holds true

* This article is a piece of a larger project regarding the phonological representation of extra-phonological information (Direct Interface, cf. below). The part which is not specific to Slavic has appeared in Scheer (1999; 2004a: §83, 381, 390); the part related to Slavic has been orally presented (e.g. Scheer 2000b, Kristo and Scheer 2005), and appears in Scheer (forth). Thanks to Markéta Ziková who helped preparing the version of the corpus that is used here (version 5,2), and which has been cleared against the Czech and Slovak National Corpora.

only for TR-only languages like English, i.e. where sonority increases in all word-initial clusters.¹ In anything-goes languages where #RT clusters occur on top of #TR sequences, however, the absence of some particular initial cluster is *always* accidental. For instance, #rt occurs in Polish (e.g., *rtęć* "quicksilver"), but #rp does not. Unlike in the case of the non-occurring English #lb, Polish grammar, I argue, does not outlaw #rp, which is just as well-formed as #rt. Another obvious reflection of the difference between TR-only and anything-goes languages is the fact that the former instantiate all obstruent-liquid combinations (with the pervasive exception of #tl, #dl), whereas the latter may operate an arbitrary choice among #RT clusters (cf. the Polish example) while still showing all possible obstruent-liquid combinations (but typically including #tl, #dl, as e.g. Czech and Polish).

A consequence of this view is a strictly binary typology. An examination of the surface suggests that anything-goes languages may be more or less close to the TR-only bottom line: Classical Greek has just a few non-TR clusters, Slavic languages show quite a number of them, while Moroccan Arabic instantiates all logically possible sequences of Ts and Rs. Counter to this impression of gradience, a consequence of what I propose is that *all* anything-goes languages share the same grammar as far as word-initial clusters are concerned: *any* sequence is well-formed, and those which do not occur may enter the language tomorrow. Thus #rp is absent in both English and Polish, but for different reasons: it is a systematic gap in the former, but a mere accidental gap in the latter. Hence there are only two types of languages phonologically speaking: those which impose a restriction on initial clusters (TR-only), and those which do not (anything-goes).

The following arguments in favour of this perspective are brought to bear. In Slavic anything-goes languages (which will be examined in detail), new words (loans, acronyms) with non-occurring initial clusters may freely enter the language. Also, it is not true that occurring clusters (or non-occurring clusters for that matter) constitute a natural class: looking at them from all possible angles, there is no principle that allows to characterise all and only those sequences which are (non-)existing. By contrast, the hypothesis crediting lexical accident is supported by a striking diachronic generalization: *all* modern Slavic #RT clusters have

¹ Here and henceforth, T represents any obstruent, R any sonorant. Unless otherwise specified, #RT is shorthand for all non-#TR clusters, i.e. #RT, #RR and #TT.

come into being through the loss of a yer. The two consonants of a Common Slavic (CS) sequence #RyerT, however, were of course not subject to any co-occurrence restriction. Therefore their reunion through the loss of the yer creates a randomly structured sequence, both as far as its members and as gaps are concerned: #rp does not exist in any Slavic language simply because CS happened not to feature any lexical item beginning with #r-yer-p.

Finally, I show that a particular phonological theory, so-called CVCV where the peculiarities of the word-initial site follow from the presence or absence of an initial CV unit, precisely predicts that there are only two possible grammars for the beginning of the word. By the same token, a prediction is made to the effect that there can be only one "extrasyllabic" consonant at most. While this appears to be true, regular extrasyllabic analyses of #RT clusters do not impose any restriction on the number of extrasyllabic consonants that could occur in a row.

2 #RT Clusters across Languages

Cross-linguistically, #TR-only and anything-goes systems exhaust the record of languages that admit initial clusters: in some languages no clusters occur at all; in others, only #TRs are found (English, Italian etc.), while in a third group clusters of any sonority profile occur (e.g. modern occidental Semitic, Berber, Slavic). What natural language does not provide for is the fourth logical possibility, i.e. a situation where only non-#TRs are found word-initially: there are no #RT-only languages. Therefore #TR and #RT clusters entertain an implicational relationship: if a language possesses #RTs, it will also feature #TRs; the reverse, however, is not true. All theories need to account for this distribution.

At first sight, thus, we seem to face a binary typology: a cluster-admitting language is either #TR-only or anything-goes. However, let us have a closer look at the domestic typology of the latter group. Languages following this pattern are not very frequent, and their distribution seems to follow fairly robust genetic/ geographic patterns (this of course does not exclude their presence elsewhere). Clements (1990: 288ss) for example provides a list of anything-goes languages, and these typically include (or occur in) modern occidental Semitic (e.g. Moroccan Arabic), Berber, Slavic, Greek, Caucasian languages and Salish (native American Northwest, e.g. Bagemihl 1991).²

² Greenberg (1978: 258) records 12 anything-goes languages, but his data are not

Among these languages, the number and nature of #RT, #RR and #TT clusters show important variation: in some cases only a few sonority-offending sequences are present, while in others many such groups exist. Still in others, all logically possible combinations of two consonants indeed occur word-initially. Moroccan Arabic is on this end of the spectrum (see Scheer 2004a: §383-385 for further detail).

On the other end, Classical Greek is known for word-initial #pt, #kt (as well as aspirated versions thereof) and #mn, but lacks all other sonority-offending groups. One way to approach this pattern would be to acknowledge that the language allows for #TT and #RR (and of course #TR), but not for #RT. This does not explain, however, why it is far from instantiating all logically possible #TTs and #RRs: even on this assumption, the number of existing clusters is only a very small subset of the number of logically possible clusters.³

In the following section, the Slavic family is examined in detail with respect to this variation.

3 #RT Clusters in Slavic

3.1 *The Corpus: Constitution and Organisation*

Over the past years (a first version has appeared in Scheer 2000a), I have attempted to establish a data base which provides an exhaustive record of all words that begin with a sonorant-obstruent cluster in 13 Slavic languages: Czech, Slovak, Polish, Upper Sorbian, Lower Sorbian, Kashubian (West), Bulgarian, Macedonian, Bosno-Serbo-Croatian, Slovenian (South), Russian, Ukrainian, Belarusian (East). For the time being, the inquiry does not include #TT and #RR sequences. This is only because a corpus containing all non-TR clusters represents a workload that would have exceeded my resources. I have therefore privileged the clusters that are most offending for sonority sequencing. Hopefully at some point the list of Slavic #RR- and #TT-words will also be available.

Unfortunately, the corpus is too large to be included in the present article. It is available at www.unice.fr/dsl/tobweb/classes.htm#sldata,

reliable: among these are French, Persian and Icelandic.

³ I am not familiar with the distribution of all anything-goes languages quoted, but a reasonable assumption is that there is none which restricts offending initial clusters to either #RT, #TT or #RR (or any two-member combination thereof) and within this putative group exhausts all logical possibilities. A reviewer points out Georgian (Caucasus) as a putative counterexample. I leave the question open for further study.

where its internal organization and the methodology that has been used for its construction are also explained in detail. Words are arranged according to the Common Slavic root that they represent. All in all, this produces a set of 41 CS roots.

3.2 Broad Results: More or Less #RT-Friendly Slavic Languages

(1) distribution of #RT clusters over Slavic languages

		West						South				East		
		Cz	Sk	USo	LSo	Po	Ka	Bu	Ma	BSC	Sn	Bru	Uk	R
jT	jd	+												
	jh	+												
	js	+												
rT	rb									+				
	rŕs	+					+							
	rŕj	+												
	rk, řk	+												
	rd, rdz, rdz̄	+					+			+				+
	rz	+								+				
	rʒ	+		+	+	+							+	+
	rt	+				+				+			+	+
	rv, řv	+					+			+			+	+
lT	lb	+					+							+
	lg, lh	+					+	+					+	+
	lʒ	+	+				+							
	lz	+		+			+							
	lk	+	+				+							
	lp	+	+											
	ls, lç	+	+				+							+
	lj	+											+	
lv	+					+						+	+	
mT	md	+	+				+							
	mg, mh	+					+	+					+	+
	mʒ	+					+						+	+
	mz	+	+	+			+						+	+
	mx						+							+
	mʃ	+	+	+			+	+					+	+
	mk	+					+	+						+
	mŕj												+	+
	ms, mç	+	+				+						+	+
mt	+													
Total: 31		28	8	4	1	20	4			5			12	16

Table (1) above shows the broadest information provided by the corpus: for every #RT recorded, it indicates whether ("+") or not (blank) it occurs in the 13 individual Slavic languages (no indication is given of the

number of words/ roots that incarnate a particular cluster).⁴

The result is clearly scalar: every Slavic language seems to make its own selection among #RT clusters, whose number may range from "zero" (Bulgarian, Macedonian, Slovenian, Belarusian) over "almost none" (Sorbian 1,4, Kashubian 4), "some" (Slovak 8) and "quite some" (Ukrainian 12, Russian 16) to "a whole lot" (Polish 20, Czech 28). No language, however, attests the full set of logically possible #RT clusters. Even the most permissive systems are far from that: out of 126 logically possible #RT sequences (6 sonorants, 21 obstruents), Polish selects 20, i.e. about 16%. Czech attests 28 combinations out of 108 logically possible clusters (6 sonorants, 18 obstruents), which amounts to 26%.

This situation strongly contrasts with the one found in TR-only languages where all possible obstruent-liquid clusters exist (at least all stop-liquid clusters, except of course the notorious #tl, #dl).⁵

On the bottom line, Slavic languages may thus be reasonably divided into three groups: one where #RT clusters are common (Czech, Polish, Russian, Ukrainian, Slovak), one where they are absent (Bulgarian, Macedonian, Slovenian, Belarusian), and one where #RT clusters are so rare that their synchronic status may be called into question (Upper Sorbian, Lower Sorbian, Kashubian).

The remaining language, Bosno-Serbo-Croatian, is to be counted out altogether since the sonorant of all #RT clusters (only #rT occurs) is syllabic, hence has vocalic function and is not part of any cluster at all. Its syllabicity can be told from various tests, e.g. the fact that it may bear stress (as in *rvati se* "to tussle") and even constitute the only syllabic peak of the word (*rt* "cape (in the sea)"). Also, it is guaranteed that the initial sonorant is not syllabic but trapped in the five permissive languages, (see Scheer 2004a: §240, in press a for further discussion of this difference): stress is initial in Czech, penultimate in Polish, but the R of #RT clusters is never stressed in either language (were the R syllabic, it would receive stress e.g. in Cz *rtut'* and Po *rteć* "quicksilver" where the vowel is tonic;

⁴ It does not seem to make sense to distinguish #Rd and #Rd or, for that matter, s, z and ś, ź as well as the corresponding affricates, ł [w] and l, g and h. All these pairs appear together in the same line. Even though there is reason to believe that Cz ʃ is not a sonorant, I continue mentioning it (together with r).

⁵ The situation for nasals is different: usually #TN does not occur (e.g. English, French), and even if it does (like in German), the variety of clusters found is vanishingly small (#kn, but not #pn, #km etc.). Perhaps it is more appropriate to talk about TL-only languages anyway (where L is a liquid).

more tests leading to the same diagnostic, also for the Eastern languages, are provided in the references quoted).

3.3 Slavic #RTs Never Form a Natural Class

Let us now look at the qualitative aspect of Slavic #RT clusters. Were they controlled by grammar, both the occurring and the non-occurring #RTs, in a given language, should form a natural class. All attempts at parsing the #RT-set of any of the 9 #RT-displaying languages under (1) into a natural class are vain. Whatever the criterion or the feature or combination of features used (sonority, nasality, place etc.), the #RT-set of all languages will resist exhaustive assignment: some clusters that according to the natural class should exist are absent, and some that are outlawed do occur.

In order to see this, let us follow the strongest case strategy. Polish is by far the best studied Slavic language as far as phonology is concerned, and this is especially true for initial clusters. Starting with Kuryłowicz (1952), a traditional topic in Polish phonology has been to find the guiding principle which is able to tell occurring from non-occurring initial clusters. The exhaustive inventory of Polish initial clusters on which all analytic work is based has been established by Sawicka (1974) (see also Rowicka 1999: 309ss and Scheer 2004a: §§375, 622). Relevant analytic literature includes Rubach and Booij (1990), Gussmann (1991), Cyran and Gussmann (1998, 1999) and Rowicka (1999).

Kuryłowicz' (1952) double onset analysis sets the frame for later attempts at solving the problem that are couched in Government Phonology: he contends that Polish respects sonority sequencing just like other languages, but unlike these allows words to begin with two onsets in a row, both of which may branch. Implicit in this line of thought of course is the existence of an intervening empty nucleus. However, as Cyran and Gussmann (1998:129) point out, this approach still overgenerates a lot: "While it [Kuryłowicz' proposal] succeeds remarkably well in covering the existing forms by reducing the heavy consonant groups to simple one- or two-member sequences, it does so at the expense of predicting a massive number of forms which do not and cannot exist. [...]. It is easy to think of numerous cases where the mirror-image situation [of existing #CC clusters] is not possible: although we find [kr, pr, gn, tn] [...], no reversing of elements is possible *[rk, rp, ng, nt]." Cyran and Gussmann (1998,1999) then provide a government-based analysis that improves on Kuryłowicz' results, but admit that even then Polish clusters resist a proper characterisation in terms of natural classes: "in fact [r] can only be

followed by some obstruents and never by sonorants, while [n] cannot be followed by anything. Likewise [m] can be followed but not preceded by a sonorant. [...]. Regularities of this sort fail to result from the licensing mechanism called PG. [...] These complex issues are not fully understood at present" Cyran & Gussmann (1998: 135).

We are thus left with an anarchic picture that no principle seems to be able to explain. It is certainly possible to argue that our current understanding of possible guiding principles is too poor, and that progress in phonological theory one day will shed light on the mystery. This perspective, however, is not really promising because rather than about theory we are talking about basic descriptive categories (sonority, place, manner etc.), which are not likely to evolve. Also, the strongest case for a systematic gap analysis is certainly Polish: linguists have invested more time into the study of Polish initial clusters than into the study of initial clusters of any other Slavic language. If the result is negative here, it is unlikely to be positive elsewhere.

Let us therefore think of a solution which dispenses with the idea that things should be explained at all: the clusters and gaps are not enforced by grammar; rather, they are the result of lexical accident. The following section provides strong diachronic support for this alternative.

3.4 All Slavic #RTs Are Produced by the Loss of a Yer

Contrasting with the synchronically anarchic situation, there is an obvious and absolutely exceptionless diachronic generalisation that is brought to light by the corpus: *all #RT-words in all Slavic languages have been produced by the loss of an intervening yer*. That is, all modern #RTs come from a CS #R-yer-T sequence. This hard distributional fact can hardly be accidental. All theories need to account for it: there is a causal relation between the loss of yers and the particular #RTs that occur.

This causal relation is immediately obvious when considering the fact that as in any other language, there was no co-occurrence restriction between C_1 and C_2 of a Common Slavic # C_1 -V- C_2 sequence. In case V happened to be a yer, thus, a # C_1 - C_2 cluster was "mechanically" created as the yer was lost. In absence of any reaction against the new cluster, we therefore do not expect any co-occurrence restriction between the two consonants in the resulting language. And, of course, no particular distribution of C_1 and C_2 either: the choice of C_1 and C_2 was arbitrary in CS, and so it is in the new clusters. In short, thus, Czech initial #RTs for example are just CS #RyerTs minus the yers.

This perspective explains the absence of co-occurrence restrictions on modern #RTs and hence the failure of attempts at characterising them as a natural class. And it directly captures the causal relation between the existing #RTs and the loss of yers.

There is thus good reason to believe that modern #RTs are lexical accident, i.e. the regular Common Slavic lexical accident catered down to modern languages. Missing #RTs are therefore accidental gaps: there happened not to be any CS word with an intervening yer.

3.5 Predictions and Suggestions

This analysis makes two predictions and suggests that the diachronic scenario for non-Slavic anything-goes languages could have been identical or similar.

The first prediction concerns the creation of lexical items: since grammar does not rule out any #RT cluster, new words may enter the language with any logically possible sequence. Hence #lb does not occur in either English or Ukrainian; *lbick*, however, is a possible word in the latter, but not in the former. The English TR-only grammar rules it out, while the Ukrainian anything-goes grammar admits any cluster. This contrast is confirmed by the harshly negative attitude of English (or French, or German etc.) natives, as opposed to the judgement of Czech, Polish etc. natives ("it sounds strange, but I could imagine a word of that shape"), which is comparable to the English situation of *blick*.

Possible sources for lexical creation are loans and acronyms. The former supposes a donor language with #RT-words, which is not easy to come by even in a globalised world: Slavic languages are unlikely to borrow from modern occidental Semitic, Berber or Salish. One obvious case, however, are Caucasian languages which feature #RT-words and have been in intimate contact with Russian. Looking at Russian loans of Caucasian origin, the prediction is borne out:⁶ the words *Mcyri* "poem by Lermontov, and the corresponding character", *Mckheta* "town in Georgia", *Mtacminda* "mountain in Tbilisi", *rkaciteli* "popular brand of wine", *Rza* "personal name" all bear an #RT cluster that does not occur in native Russian items ([\widehat{mts} ,*mt*,*rk*,*rz*]). They are nonetheless borrowed without any modification of the initial cluster, receive regular inflection

⁶ On the basis of responses to a query published on Linguist List in February 2001 (volume 12-358), the following data have been verified with several native speakers. Judgments are uniform.

etc. Trying to make an English, German, Italian etc. native accept this kind of borrowing fails miserably.

The second prediction concerns non-occurring #RTs and is of diachronic nature: the reason why a given #RT does not exist in a modern Slavic language is diachronic accident: either there was no CS basis, i.e. there happened not to be any CS word with this particular #R-yer-T sequence, or the existing CS basis did not make it to the modern language (or was modified). That is, the reason why there is no #nT in any Slavic language must be the absence of a CS #n-yer-T basis. Note that on phonological grounds this absence, compared to the frequent occurrence of #mT, is unexpected: m is certainly marked with respect to n; hence if anything, #mT should be missing. The diachronic prediction, again, appears to be correct: etymological dictionaries (e.g. Havlová et al. 1989-2006:557s, Holub and Kopečný 1952: 241, Machek 1957: 321) do not have a single CS #n-yer-T-V root on record.⁷

The overall diachronic scenario is thus as follows: Common Slavic was a regular TR-only language until the loss of yers "blindly" created offending #RT sequences. Individual Slavic dialects had different responses to this new situation: either they maintained the TR-only grammar, or they switched to an anything-goes grammar. Languages in the former case either refused yer loss that would have created #RT clusters (hence yers were vocalised even in weak position), or modified the resulting #RTs (all kinds of strategies are attested, cf. the corpus: metathesis, epenthesis, loss of C₁ or C₂). On the other hand, languages in the latter situation did not show any reaction. This split sets apart Belarusian, Slovenian, Bulgarian and Macedonian (following the former pattern) from Czech, Polish, BSC, Russian and Ukrainian (following the latter pattern). Within the latter group, the varying number of different #RTs is the result of further diachronic evolution: individual roots may or may not have survived, may or may not have been modified etc.

Finally, the diachronic scenario together with the claim that there are only two grammars regarding initial clusters suggests that #RT clusters in non-Slavic anything-goes languages could also have arisen through the

⁷ The sequence #n-yer-T must indeed be followed by a vowel since otherwise the yer will be regularly vocalised: in roots of the shape #n-yer-T-C it occurs in so-called strong position. Dictionaries actually offer one single item of this kind, CS *нѣшти "trough" (< IE *nigw "washing", e.g. gr *νίγω* "to wash"), which indeed shows regular yer vocalisation in all modern reflexes: BSC *načve*, Cz *necky*, Po *niecka*, Old Ru *načvy*.

loss of intervening vowels. On this assumption, the erratic occurrence of particular #RTs in Slavic is due to the fact that in Common Slavic 1) only two vowels out of eleven (the yers) have fallen out and 2) any vowel can be the first vowel of a word. By contrast in a language like Classical Arabic which has produced the modern varieties where all logically possible #RTs occur, the prediction is that either more vowels have been lost in #C₁-V-C₂ sequences, or the distribution of the first vowel of a word is not random. The latter scenario happens to be true: Semitic has non-concatenative morphology, which means that the three consonants of a stem carry its lexical meaning, while the two intervening vowels are actual morphemes: in Cl. Arabic katab-a "write 3m sg act pf", the first (short) [a] is the marker for active voice and thus will be present in all verbs (the second [a] is a class marker). Now diachronically, all Cl. Arabic short vowels have become schwa in the dialects at hand, while all long vowels have become short. Schwa, however, alternates with zero according to the pattern [kʰitʰ] (representing /kitʰ-i-/ from Cl. Arabic katab-a "write 3m sg act pf") vs. [kʰitʰ-u] (representing /kitʰ-u/ from Cl. Arabic katab-uu "write 3m pl act pf"). Hence the 3m sg act pf of all verbs in modern occidental varieties will "mechanically" produce #C₁C₂ from underlying /C₁iC₂ibC₃-i/. Therefore all logically possible #RTs indeed do occur in Moroccan Arabic: unlike in Common Slavic where only two eleventh of the lexicon were concerned (on the assumption that all vowels had equal distribution), the intervening vowel is lost in all verbs.⁸

4 CVCV: The Initial CV Imposes the Binary Typology at Hand

4.1 CVCV and the Representation of Extra-Phonological Information

This section shows that a particular phonological theory, so-called CVCV, offers only space for two different grammars regarding the beginning of the word, i.e. exactly the picture established by the preceding discussion.

CVCV is an offspring of Government Phonology (Kaye et al. et al. 1990, Harris 1994) that has been introduced by Lowenstamm (1996).⁹ The

⁸ Amimi and Bohas (1996) discuss the Arabic pattern in greater detail. The Greek situation (why is there only a small subset of possible #TTs, why are there no #RT clusters at all?) has a diachronic solution as well, which is exposed in Seigneur-Froli (2003, 2006, in press).

⁹ Relevant references are, among others, Scheer (2004a), Scheer and Szigetvári (2005), Cyran (2003), Szigetvári (1999).

central idea of this theory is the lateralisation of structure and causality: instead of the familiar syllabic arborescence, lateral relations among constituents are responsible for the effects observed. CVCV takes this line of reasoning to its logical end: it holds that syllabic constituency boils down to a strict sequence of non-branching Onsets and non-branching Nuclei in all languages. There are no Codas and no Rhymes, and the minimal syllabic unit that may be manipulated is an Onset followed by a Nucleus.

In traditional approaches, syllabic arborescence assures the function of binding together different constituents, thereby identifying their grouping into higher units. In CVCV, this function is shifted onto lateral relations that are assumed to hold between constituents: Government and Licensing. Effects that are usually attributed to the fact that a given segment belongs to this or that syllabic constituent are claimed to stem from the configuration regarding Government and Licensing that it is involved in. Space restrictions preclude further discussion of the properties of the theory, and the reader must be referred to the references mentioned in note 9.

In CVCV, the beginning of the word is represented by an empty Onset followed by an empty Nucleus, the initial CV. That is, Lowenstamm (1999) proposes a truly phonological identity for what traditionally has only a diacritic existence, i.e. "#". This take follows the principle of Direct Interface according to which extra-phonological information must not come down to the phonology as a diacritic (such as SPE-type boundary symbols, brackets in Lexical Phonology or the Prosodic Hierarchy). Rather, only objects that are needed by the domestic phonology in absence of any issue related to the interface may represent morpho-syntactic information. Hence a CV unit (but neither of the diacritics mentioned) qualifies as a representative of morpho-syntactic information in the phonology.¹⁰

The initial CV thus represents morpho-syntactic information in the phonology. It is therefore absent from the lexical recording of words. Like in all other theories (SPE, Prosodic Phonology, OT etc.), the representation to which phonological computation applies is pieced together from the lexical entries of the morphemes and objects that represent morpho-syntactic information. The latter (#s, the Prosodic Hierarchy, brackets etc. in the theories mentioned, the initial CV here) are thus distributed by morpho-syntax, typically through some kind of

¹⁰ See Scheer (2005, in press b, forth) for further detail regarding Direct Interface.

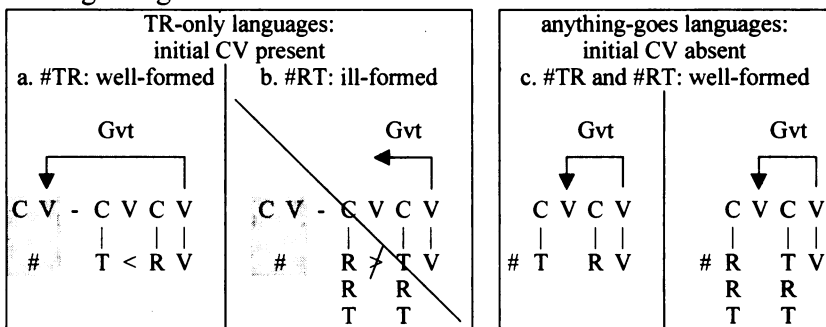
Translator's Office (the Readjustment Component in SPE, mapping rules in Prosodic Phonology, ALIGN and WRAP in OT).

Therefore, the distribution of the initial CV is not automatic: languages may or may not ship off a phonological exponent of the morpho-syntactic information "beginning of the word". Crucially, though, there are only two possible ways of handling this device: the initial CV may or may not be sent down to the phonology. There is no third possibility. Note that this contrasts with other interface theories where the number of different diacritics that may come down to the phonology is unlimited in principle (# and the like, various prosodic constituents).

4.2 The Beginning of the Word in CVCV

Given these premises, (2) below shows the representation of word-initial clusters in languages where the initial CV (grey-shaded) is distributed (which will turn out to be the TR-only type), and in those where the beginning of the word is left unmarked by any extra-phonological information (absence of the initial CV, these languages will turn out to be the anything-goes type).

(2) the beginning of the word in CVCV



The ground rule in Government Phonology is that empty Nuclei do not come for free: they need to be governed in order to exist. However, only phonetically expressed Nuclei can govern, and every governor can only govern one target. Therefore, two empty Nuclei in a row are ill-formed. In the version of CVCV that I use (others include Szigetvári 1999, Cyran 2003 and Rowicka 1999), all lateral relations are head-final. Also, the representation of TR clusters, i.e. traditional branching Onsets, is as under (2a): being more complex (i.e. made of more phonological primes), sonorants may establish a relation called Infrasegmental

Government over obstruents (represented as "<" under (2a), as ">" under (2b)). This relation has the effect of satisfying the Empty Category Principle (ECP) of the enclosed Nucleus.¹¹

With that in mind consider (2a) and (2b): both representations present two empty Nuclei, i.e. the one separating the initial cluster and the one from the initial CV. Under (2a), the former is taken care of by the relation between the two consonants, while the ECP of the latter is satisfied through Government from the first vowel of the word. The representation is thus well-formed. Under (2b), however, no relation between consonants can be established: either it would have to be left-headed (RT), or equal complexity does not allow for it (RR, TT). Therefore the intervening empty Nucleus still requires to be silenced, and the first vowel of the word would need to simultaneously govern two empty Nuclei. Since this is impossible, the structure is ill-formed.

On the bottom line, thus, the difference in complexity between obstruents and sonorants, together with the pressure that the initial CV puts on the structure by loading it with an extra empty Nucleus, causes the well-formedness of #TRs and the ill-formedness of #RTs. Or, in other words, the presence of the empty CV enforces the restriction of initial clusters to #TRs.

On the other hand, its absence under (2c) has the effect of leaving the structure with only one empty Nucleus that requires care no matter what the initial cluster. Therefore, the sonority slope of the sequence is irrelevant: whatever it is, the first vowel of the word will be able to govern the intervening empty Nucleus. The representation will thus be well-formed in any event: (2c) describes anything-goes languages.

4.3 Benefits: Binary Typology, *#RT-Only, No Multiple Extrasyllabicity

It follows that CVCV and the initial CV make a prediction to the effect that there can be only two different grammars in natural language regarding the left edge of the word: either the initial CV is present and the TR-restriction is enforced, or it is absent and any cluster is well-formed. This is precisely what the empirical discussion of sections 2 and 3 demands: a theory that does not care for the apparent surface gradience of more or less permissive languages (#TR plus a little, some, quite some, a

¹¹ The two ways of satisfying the ECP that have been mentioned are enough for the present purpose. More detail regarding the phonological ECP and the functioning of branching Onsets is available in Scheer (2004a:§14).

lot or all #RTs). As far as grammar is concerned, there are only two types of languages, TR-only and anything-goes.

Moreover, if a language has #RTs, it must also possess #TRs. This is so since the presence of the former implies the absence of the initial CV, which in turn makes any cluster well-formed. By contrast, the presence of #TRs in a language does not allow to predict whether #RTs also occur: they may (if the initial CV is absent) or may not (if it is present). And in any event, #RT-only languages are not an option: if #RTs exist, #TRs must also occur. Now recall from the beginning of section 2 that this is precisely the cross-linguistic typology that theory is called to derive. The absence of #RT-only languages and the implicational relationship between #RTs and #TRs thus come for free with the theory of the beginning of the word that has been laid out.

Finally, let us look at another approach to #RTs that, like the analysis presented, does not try to force existing and non-existing items into natural classes. In generative phonology, the traditional analysis of clusters that violate sonority sequencing is along the lines of extrasyllabicity. On this count, a syllabification algorithm operates over a lexically unsyllabified string and leaves the sonority-offenders unparsed. For example, Polish *rteć* "quicksilver" will end up as <r>teć where angled brackets identify the unparsed, i.e. extrasyllabic element. Phonology may then operate, and at some point of the derivation, the extrasyllabic consonant is reintegrated into the syllabic or prosodic arborescence (otherwise it would not make it to the surface). The exact location to which extrasyllabic consonants are adjoined differs across analyses: sometimes they end up in truly syllabic constituents (the Onset in the case quoted, e.g. Hall 1992: 122ss), sometimes in higher prosodic constituents (the prosodic word, e.g. Rubach and Booij 1990, Rubach 1997, in violation of the Strict Layer Hypothesis). In the former case, sonority sequencing is said to hold only at the "deep" level where syllabification operates (while an Onset can contain anything on the surface), while the latter does not need any specific statement since no co-occurrence restrictions are defined for prosodic constituents anyway.

The problem with all versions of extrasyllabicity is that they allow for random strings of extrasyllabic consonants: since prosodic constituents and Onsets (at the surface level) can contain anything, words with three, five or 17 extrasyllabic consonants in a row, e.g. /rgtflpen/, should be well-formed. Obviously natural language does not produce this kind of monsters. I show in Scheer (2004a: §373,b) that even systems which have

an extremely liberal reputation such as Salish languages and Polish do not produce extrasyllabic clusters.

Unlike the extrasyllabic approach, the theory outlined above predicts that there could be no more than one extrasyllabic consonant in a row. A (left-edge) extrasyllabic consonant is a consonant that occurs at the left edge of a word and whose Nucleus is governed (C_1 under 2c). Hence the adjunction of any further consonant supposes the presence of an additional empty Nucleus. Two or more empty Nuclei in a row as e.g. in /røtøken/, however, are ill-formed since the first vowel of the word will be unable to govern all of them. Therefore one sonority-offending consonant at most can be accommodated on the count of CVCV.

5 Conclusion

The foregoing pages have applied the theory of Direct Interface to the beginning of the word: rather than by diacritics such as "#" or elements of the Prosodic Hierarchy (e.g. phonological words), the representation of morpho-syntactic information in the phonology can only be effected by truly phonological material. Unlike the former (#s neither demand nor invalidate initial clusters), the latter have a direct impact: the initial CV burdens the phonology with an additional empty Nucleus, which makes non-#TR clusters illegal.

Therefore, a prediction is made to the effect that natural language can only produce two different grammars regarding the beginning of the word: TR-only and anything-goes. All surface gradience suggesting that some languages are more permissive than others reduces to either pattern. Eventually missing clusters are accidental, not systematic; they may be happily filled in by new words.

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***Jer* Vowels in Russian Prepositions ***

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The goal of this paper is to describe and analyze *jer* vowels in Russian monosyllabic prepositions *v/vo* 'in', *s/so* 'with/from', and *k/ko* 'to'. I show that patterns of *jer* realization in Russian prepositions are different from those in Russian prefixes. I present empirical generalizations on the behavior of prepositional *jers* based on collected data and propose an OT analysis.

Monosyllabic prepositions with *jer* vowels are especially interesting because they alternate between a syllable of their own and a single consonant, thus adding to the problem of the canonical syllable and extra-syllabicity in Russian.

This paper is organized as follows. Section 1 presents the background of the study of *jer* vowels. Section 2 compares the behavior of prepositional *jers* with the behavior of prefixal *jers*. Section 3 lays out assumptions about syllabification and prosodic parsing in Russian. Section 4 illustrates empirical generalizations on *jer* vowels in prepositions. Section 5 proposes an OT analysis of the data. Finally, section 6 presents the conclusions of the study.

1 Background

All Slavic languages have one or two vowels that alternate with zero. Such vowels are called *jer* (or *yer*) vowels. Russian has two *jer* vowels:

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[ɛ] and [o], illustrated in (1)¹. For comparison, (2) shows regular vowels [ɛ] and [o] that do not alternate with zero.

- | | |
|--|---|
| (1) <i>Jer</i> vowels [ɛ] and [o] | (alternation with zero) |
| a. <i>kus-<u>ó</u>k</i> [kus ó k] ‘piece _{NOM} ’ | <i>kus-k-á</i> [kuská] ‘piece _{GEN} ’ |
| b. <i>d’<u>én</u></i> [d’ɛn] ‘day _{NOM} ’ | <i>dn’-á</i> [dn’á] ‘day _{GEN} ’ |
| (2) Regular vowels [ɛ] and [o] | (no alternation with zero) |
| a. <i>koról’</i> [kɔrɔl’] ‘king _{NOM} ’ | <i>korol’-á</i> [kɔrɔl’á] ‘king _{GEN} ’ |
| b. <i>mudr’-éc</i> [mudr’ɛc] ‘wiseman _{NOM} ’ | <i>mudr’-ec-á</i> [mudr’icá]
‘wiseman _{GEN} ’ |

Slavic *jers* have received a lot of attention in the literature (e.g., Hansson 1993, Hermans 2002; Lightner 1972; Matushansky 2002; Pesetsky 1979; Rowicka 1999; Rubach 1986; Spencer 1985; Szpyra 1992; Timberlake 2004; Yearley 1995; Zoll 1998). The traditional view is that a *jer* vowel is realized when the next vowel is also a *jer*; otherwise, it is deleted. Yearley (1995) argues for a different treatment of *jers* in Russian suffixes, suggesting that an underlying *jer* is realized in order to avoid a complex coda. For example, in *kus-ók* ‘piece_{NOM}’, the *jer* vowel [o] is realized to eliminate the complex coda [sk]. However, in *kus-k-á* ‘piece_{GEN}’, there are two syllables [kus] and [ka], neither of which has a complex coda, therefore, a *jer* is not realized.

While Yearley (1995) proposes that *jers* are realized to avoid complex codas word-finally, *jers* in word-initial syllables are realized differently. Yearley (1995) shows that in prefixes, a *jer* is realized if the next vowel is also a *jer*, which corresponds to the traditional view on *jer* realization. For example, *so-mk-n-ú-t’* ‘to close_{INF}’ is underlyingly /so-mok-n-u-t’/ (compare with *za-mok* ‘lock_{NOM}’ vs. *za-mk-á* ‘lock_{GEN}’). A *jer* vowel in the prefix *so-* is realized because it precedes another (deleted) *jer* in the next syllable; that is, this analysis is opaque at the surface level.

Unlike prefixal *jers*, prepositional *jers* are not affected by whether or not the next vowel is also a *jer*, but rather are sensitive to the syllable structure, prosodic parsing, and place sequencing among unsyllabifiable material.

¹ *Jer* vowels are shown in **bold** and are underlined.

2 Comparison of *Jer* Vowels in Russian Prefixes and Prepositions

2.1 *Jer* Vowels in Russian Prefixes

According to Yearley (1995), there are two generalizations concerning prefixal *jer*s: (i) they are realized before stems that underlyingly contain a *jer* (3), and (ii) they are realized before unsyllabifiable stem-initial clusters (4).

(3) Prefixal *jer* before a stem that underlyingly contains a *jer*:

- a. *sǫ-mk-n-ú* ‘(I will) lock’ (UR: /sǫ-mǫk-n-u/) (compare with *za-mǫk* ‘lock’)
- b. *sǫ-č’-t-ú* ‘(I will) consider’ (UR: /sǫ-č’ ɛt-u/) (compare with *u-č’-č’s-t’* ‘consider_{PERF}’)
- c. *podǫ-rv-á-t’* ‘to undermine’ (UR: /podǫ-rǫv-a-t’/) (compare with *rǫv* ‘ditch’)

(4) Prefixal *jer* before an unsyllabifiable stem-initial cluster:

- a. *sǫ-lg-á-t’* ‘to lie’
- b. *podǫ-b’j-ú* ‘(I will) instigate’
- c. *vǫ-l’j-ú* ‘(I will) pour in’
- d. *sǫ-v-m’est’-i-t’* ‘to combine’
- e. *podǫ-tk-n-ú-t’* ‘to tuck in’
- f. *podǫ-tk-á-t’* ‘to add to the weaving’

The second generalization is weak, because most of the examples in (4) also underlyingly contain a *jer* in the stem, making the data sets in (3) and (4) very similar. For example, the word *sǫ-lg-á-t’* ‘to lie’ underlyingly contains a *jer* in the stem /sǫ-log-a-t’/, because of the related *jer*-containing noun *lǫž*² ‘lie’. The word *podǫ-b’j-ú* ‘(I will) instigate’ is another such example: it is underlyingly /podǫ-b’ej-ul/, because of the imperative *pod-běj* ‘instigate_{IMPERF}’. The root *tk-* in (4e) *podǫ-tk-n-ú-t’* ‘to tuck in’ and (4f) *podǫ-tk-á-t’* ‘to add to the weaving’ contained a *jer* in Old Slavic, as in *tǫkati/tǫku* (Fasmer 1987); however, there is no evidence that a *jer* is still present in Contemporary Russian.

It seems that the data in (3) and (4) should form a single set of data, illustrating the generalization that prefixal *jer*s are realized before a stem that underlyingly contains another *jer*.

² This word shows a typical Russian [g] ~ [ž] alternation.

2.2 *Jers in Prepositions Are Different from Jers in Prefixes*

If *jer* vowels in Russian prepositions behaved similarly to *jer* vowels in prefixes, we would expect them to surface before *jer*-containing major category words. But, the following data elicited from native speakers of Russian show that, unlike prefixal *jers*, prepositional *jers* are not affected by whether or not there is another *jer* in the following major category word (information on elicitation procedures is provided in §4).

(5) $v p's'-é$ [f p's' ε]/* $v\underset{\underline{v}}{o} ps'é$ 'in dog' (UR: / $v\underset{\underline{v}}{o} p'os'-ε$ /)

In (5), there is a *jer* vowel in $p'os'$ 'dog', because it alternates with zero: $p'os'$ 'dog_{NOM}' vs. $ps-á$ 'dog_{GEN}'. The preposition $v\underset{\underline{v}}{o}$ 'in' surfaces without a *jer*. If Russian prepositions behaved like Russian prefixes, we would expect * $v\underset{\underline{v}}{o} p's'-é$ 'in dog' to be grammatical and $v ps'-é$ to be ungrammatical. However, as the data indicate, the opposite is true.

(6) $k pn'-ú$ [k pn'ú]/* $k\underset{\underline{k}}{o} pn'-ú$ 'to (the) stump'
(UR: / $k\underset{\underline{k}}{o} p'εn'-u$ /) (compare with $p'én'$ 'stump')

In (6), there is a *jer* vowel in $p'én'$ 'stump', because it alternates with zero: $p'én'$ 'stump_{NOM}' vs. $pn'-á$ 'stump_{GEN}'. The preposition $s\underset{\underline{s}}{o}$ 'with/from' is used without a *jer*. If *jers* in prepositions and in prefixes behaved in a similar manner, we would expect * $s\underset{\underline{s}}{o} pn'-óm$ 'with stump' to be grammatical and $s pn'-óm$ to be ungrammatical. But again, the opposite is true.

- (7) a. $s mš-íst-ím$ [s mšístim] and $s\underset{\underline{s}}{o} mš-íst-ím$ [$s_A mšístim$]
"with mossy_{ADJ}" (UR: / $s\underset{\underline{s}}{o} m\underset{\underline{m}}{o}x-ist-im$ /) (compare with $m\underset{\underline{m}}{o}x$ "moss")
b. $v lž-ív-om$ [v lživəm] and $v\underset{\underline{v}}{o} lž-ív-om$ [$v_A lživəm$] "in
deceiving_{ADJ}" (UR: / $v\underset{\underline{v}}{o} l\underset{\underline{l}}{o}ž-iv-om$ /) (compare with $l\underset{\underline{l}}{o}ž$ "lie")

The examples in (7) show that a *jer* vowel can be *optionally* realized in a preposition. In (7a), $m\underset{\underline{m}}{o}x$ 'moss' underlyingly contains a *jer* because it alternates with zero: $m\underset{\underline{m}}{o}x$ 'moss_{NOM}' vs. $mx-á$ 'moss_{GEN}'. If the distribution of *jer* vowels in prefixes and in prepositions were the same,

we would expect only *s_Q mš-íst-ím* ‘with mossy_{ADJ}’ to be grammatical. However, both examples are grammatical in Russian.

The data in (7b) work the same way. The word *l_Qž* ‘lie’ underlyingly contains a *jer* because it alternates with zero: *l_Qž* ‘lie_{NOM}’ vs. *lž-í* ‘lie_{GEN}’. If prefixal and prepositional *gers* had the same distribution, only *v_Q lž-ív-om* ‘in deceiving_{ADJ}’ would be grammatical. However, both examples are correct in Russian.

Examples (6) and (7) show that, unlike prefixal *gers*, prepositional *gers* are blind to the presence or absence of another *jer* in the following syllable. Thus, the following questions arise: What determines the behavior of *gers* in Russian prepositions? Why do *gers* sometimes surface and sometimes not? I argue that the Russian syllable structure, prosodic parsing, and place sequencing are responsible for the observed behavior of prepositional *gers*.

3 Syllable Structure and Prosodic Parsing in Russian

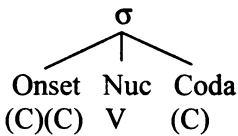
3.1 Syllable Structure

To determine the syllable structure of Russian, I examined 5000 words from Leed and Paperno (1987). As the dictionary does not show syllable breaks, I conducted individual tests with three native speakers of Russian (one female and two males) to determine syllable breaks for words with consonantal sequences. All three speakers have university degrees and are non-linguists. The participants were given a computer-printed list of Russian words that contained different sequences of consonants. They were asked to mark the syllable breaks in the given words and to put a question mark beside words they were unsure about.

In order to understand the canonical syllable shape for Russian, I conducted an analysis of root-internal syllables. It has been claimed that Russian prefixes and suffixes do not form a single prosodic domain with the root (see Zubritskaya 1993 on prefixes and Cubberley 2002 on suffixes). If these claims are correct, then the canonical syllable may be found root-internally in Russian. I also analyzed word-initial and word-final syllables in order to investigate prosodic parsing in Russian and to determine what kind of segments, if any, could be extra-syllabic in the language. These findings are described in §3.2.

I do not claim that the analysis proposed here is a complete treatment of Russian syllable structure. In fact, there are data gaps³ that may be attributed to the insufficient size of the dictionary (5000 words) used as the primary data source. Russian syllable structure is not the main focus of this paper, but rather it is an additional tool in determining the behavior of *yers* realized before certain unparsed segments (mostly before labial and sibilant fricatives and before sonorants, as described in §4). Because of space restrictions, only the conclusions from this part of the research are presented here. A more detailed analysis of the Russian syllable is developed in Steriopo (2006).

(8) Syllable template for Russian:



Russian has the following types of syllables (9):

(9) V	<i>lián-a</i>	[li.á.nə]	‘liana _{NOM} ’
CV	<i>kor-á</i>	[kλ.rá]	‘bark _{NOM} ’
CCV	<i>túndr-a</i>	[tún.drə]	‘tundra _{NOM} ’
VC	<i>paúk</i>	[pλ.úk]	‘spider _{NOM} ’
CVC	<i>arbúz</i>	[Ar.bús]	‘water-melon _{NOM} ’
CCVC	<i>zdráv-stv-uj</i>	[zdrás.tvuj]	‘hello _{IMPER} ’

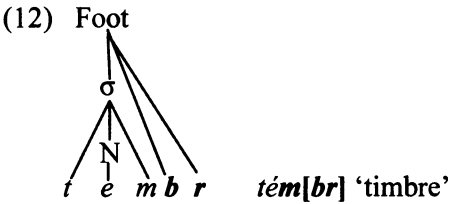
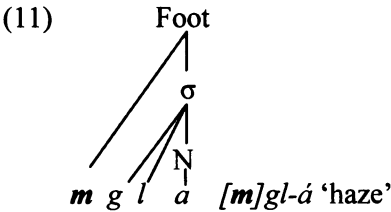
The Russian syllable exhibits the following severe restrictions on the CC onset cluster (10):

- (10) a. CC cluster can only be of types *stop + sonorant* or *stop + /v/*:
túndr-a [tún.drə] ‘tundra_{NOM}’,
zdráv-stv-uj [zdrás.tvuj] ‘hello_{IMPER}’;
 b. CC cluster is not allowed to agree in both features: *Place* and *[cont]*: *grúst-n-o* [grús.nə] ‘sad_{ADV}’.

³ A description of the data gaps can be found in Steriopo (2006).

3.2 Prosodic Parsing

According to the syllable template (8), the Russian onset can consist of no more than two consonants, and the coda can consist of no more than one consonant. However, word-initially, clusters of three or four consonants may be found, as in, [m]gl-a_{NOM} ‘haze’, [fs]tr’ė.č’-a ‘meeting_{NOM}’, and [vz]-gl’ád ‘look_{NOM}’. Word-finally, clusters of two, three, or four consonants may be found, as in sv’ók[l] ‘beet_{GEN-PL}’, tém[br] ‘timbre_{NOM}’, and xám-[stf] ‘rudeness_{GEN-PL}’. I assume that consonants that do not fit into the canonical syllable template are not parsed into a syllable (i.e., they are extra-syllabic consonants)⁴ (Kiparsky 1979; Halle & Vergnaud 1981; Steriade 1982, among others). Such extra-syllabic consonants are parsed directly into the Foot (Green 2003; Hagstrom 1997; Kiparsky 2003) (11), (12).



If the non-canonical consonants are extra-syllabic in Russian, then where do prepositions belong? Do they form a single prosodic domain with the following major category word, or do they have a separate prosodic domain of their own? I assume that monosyllabic prepositions form a single prosodic domain with the following major category word. This assumption is supported by a variety of empirical evidence.

⁴ Extra-syllabic consonants are shown in square brackets.

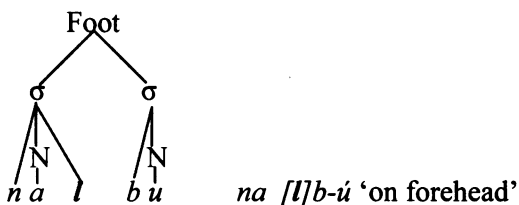
The first piece of evidence comes from the fact that Russian prepositions form a single accentual group with the following major category word (e.g., *ná sm'ex* 'to laughter'; *na stol'-é* 'on table').

The second piece of evidence is that, unlike major category words, Russian prepositions do not undergo final devoicing (e.g., *otkáz* [←tkás] *L'én-í* 'Lena's refusal'; *iz* [iz] *L'en'ingrád-a* 'from Leningrad').

The third piece of evidence is that obstruent-final prepositions always agree in voicing with the initial obstruent of the following major category word. According to Padgett (2002), this process takes place in Russian obstruent clusters within a single prosodic word (e.g., *po-xód Gr'íš-í* [paxót gr'íši] 'Grisha's trip'; *pod groz-ój* [pəd grázój] 'under thunder').

Therefore, I assume the structure shown in (13).

(13) PW



4 Prepositional *Jers*: Empirical Generalizations

To determine the behavior of *jers* in Russian monosyllabic prepositions, I conducted a separate study, for which I interviewed four native speakers of Russian: two younger speakers (20-30 years old) and two older speakers (50-60 years old). All speakers interviewed for this study have university degrees and are non-linguists.

Nine interviews were conducted with each speaker. Before the interviews, a list was prepared that contained nouns and adjectives with different consonantal onsets. First, these nouns/adjectives were used with the preposition *v*o, then with the preposition *s*o, and later with *k*o, with three sessions spent on each preposition. The tests were conducted orally. First, a word was pronounced with a preposition in which a *jer* was not realized; then the same word was pronounced with a preposition with a realized *jer*; for example, *v vstr'éc'-e* 'in meeting' and *v*o *vstr'éc'-e* 'in

meeting'. The speaker was asked to say which pronunciation of the prepositional phrases is possible in Russian, and was asked to indicate whether both phrases are acceptable. (On several occasions, the speakers indicated that both were possible, but they would only say one of them). After the first interview, the prepositional phrases were organized into three categories: (i) possible only without a *jer*, (ii) possible only with a *jer*, and (iii) possible with or without a *jer*. The results were later double-checked with the speakers. Then, the focus of interview turned to the third category. This time, the speaker was asked, for example: "Which phrase would you say: *v* *lž-ív-om* 'in deceiving_{ADJ}', or *v*o *lž-ív-om* 'in deceiving_{ADJ}'?", for each of the words. If they thought they would use both options, the speakers were asked to indicate so. The results showed that in most cases the older speakers chose prepositional phrases with a realized *jer*, while the younger speakers chose prepositional phrases with a non-realized *jer*. Due to the lack of space, I only present the main generalizations⁵:

A *jer* vowel is always realized to break up extra-syllabic [v v] and [f f] clusters (e.g., *v*o [v]núk'-e 'in grand-son'; *v*o [f]xód'-e 'in entrance').

A *jer* vowel is always realized to break up extra-syllabic [s s/š] and [z z/ž] clusters (e.g., *s*o [s]túl-om 'with chair; *s*o [š]káf-om 'with wardrobe').

A *jer* vowel is never realized to break up extra-syllabic [k k] and [g g] clusters (e.g., *k* [k]s'én'-e 'to Ksenja (name)'; *k* [g]žél'-i 'to porcelain').

Older speakers strongly prefer to realize a *jer* vowel to break up extra-syllabic obstruent-sonorant clusters, while younger speakers strongly prefer not to realize one (e.g., *v*o [r]vót'-e 'in vomit' is preferred by older speakers; *v* [r]vót'-e 'in vomit' is preferred by younger speakers).

A *jer* vowel is never realized before a complex onset (e.g., *v* *trud'-é* 'in work'; *v* *blox'-é* 'in flee').

5 An OT Analysis

5.1 An OT Analysis of Jers between Unparsed Identical Segments

In §4, I showed that prepositional *jers* are always realized to break up adjacent identical fricatives if these fricatives are extra-syllabic. Thus, *v*o 'in' is used instead of *v* 'in' to avoid [v v+C] and [f f+C] clusters (e.g., *v*o

⁵ A more detailed description of the data can be found in Steriopolo (2006).

[v]núk'-e 'in grandson'). The preposition *so* 'with/from' is used instead of *s* 'with/from' to avoid unparsed [s]/[z] + sibilant fricative clusters (e.g., *so* [s]v'et-om 'with light', *so* [š]káf-om 'with wardrobe'). Unparsed stops seem to behave differently from fricatives: adjacent unparsed stops are allowed, regardless of whether they are identical or not (*k* [k]s'én'-e 'to Ksenja (name)', *k* [p]t'íc-e 'to bird'). To account for these phenomena in Russian, I propose the following local conjunction constraints (14).

- (14) a. **(*[+cont, Lab] & Parse-Seg-to-σ)²**: Two *labial fricatives* that are both unparsed into a syllable are not allowed.
 b. **(*[+cont, +strid] & Parse-Seg-to-σ)²**: Two *sibilant fricatives* that are both unparsed into a syllable are not allowed.
 c. **(*[-son] & Parse-Seg-to-σ)²**: Two *obstruents* that are both unparsed into a syllable are not allowed.

Here, I adopt the moraic analyses of *jer*s by Rubach (1986), Kenstowicz & Rubach (1987), and Yearley (1995). According to these analyses, the difference between *jer* vowels and regular vowels is that *jer*s are underlyingly non-moraic (15), while regular vowels are moraic (16).

(15) *Jer* vowels:

μ
|
a./po.lon/ 'full_{SHORT ADJ}'
(póln-#LONG ADJ')

μ
|
b./b'ε.d'εn/ 'poor_{SHORT ADJ}'
(b'édn-#LONG ADJ')

(16) Regular vowels:

μ μ
| |
a./po.XOž/ 'similar_{SHORT ADJ}'

μ
|
b./b'εl/ 'white_{SHORT ADJ}'

Yearley (1995) claims that in Russian, when a *jer* vowel is realized, it always acquires a mora in the output (17).

(17) a. Input: μ
|
/po.lon/ 'full_{SHORT ADJ}'

b. Output: μ μ
| |
po.lon 'full_{SHORT ADJ}'

Based on these assumptions, I use the constraint *Dep-μ* that prohibits insertion of a mora (18).

(18) **Dep-μ**: Output moras have input correspondents.

Since every time a *jer* is realized, a mora is inserted, the constraints in (14a) and (14b) must outrank *Dep-μ*. It is more important to avoid unparsed *labial fricative + labial fricative* and *sibilant fricative + sibilant fricative* sequences than to avoid insertion of a mora (19).

(19) **(*[+cont, Lab] & Parse-Seg-to-σ)², (*[+cont, +strid] & Parse-Seg-to-σ)² >> Dep-μ**

Because realized vowels are always moraic in Russian, we need a constraint that would prohibit non-moraic vowels in the output (20).

(20) **V-to-μ**: vowels are moraic (Shaw 1996)

There is no crucial ranking between *(*[+cont, Lab] & Parse-Seg-to-σ)²* and *V-to-μ*, or between *(*[+cont, +strid] & Parse-Seg-to-σ)²* and *V-to-μ*. So, the following constraint ranking emerges (21).

(21) **V-to-μ, (*[+cont, Lab] & Parse-Seg-to-σ)², (*[+cont, +strid] & Parse-Seg-to-σ)² >> Dep-μ**

Tableau 1: *v_Q [v]núk'-ε* 'in grandson'

$\begin{matrix} \mu & \mu \\ \uparrow & \uparrow \\ /v_{\underline{Q}} \text{vnu } k\varepsilon/ \end{matrix}$	(*[+cont, Lab] & Parse-Seg-to-σ)²	V-to-μ	Dep-μ
$\begin{matrix} \sigma & \sigma & \sigma \\ \diagdown & \diagup & \diagdown \\ \text{a. } v & ov & n \quad u \quad k\varepsilon \end{matrix}$			*
$\begin{matrix} \sigma & \sigma & \sigma \\ \diagdown & \diagup & \diagdown \\ \text{b. } v & ov & n \quad u \quad k\varepsilon \end{matrix}$		*!	
$\begin{matrix} \sigma & \sigma \\ \diagdown & \diagup \\ \text{c. } v & [v]n \quad u \quad k\varepsilon \end{matrix}$	*!		

As Tableau 1 shows, a *jer* vowel is underlyingly mora-less. In (a), a *jer* is realized and a mora is inserted in the output. In (b), a *jer* is realized, but there is no insertion of a mora. In (c), a *jer* is not realized and there is no insertion of a mora. Output (b) violates the highly ranked *V-to-μ*, so it loses. Output (c) violates the highly ranked $(*[+cont, Lab] \& Parse-Seg-to-σ)^2$, so it too does not win. Output (a) violates the lower ranked *Dep-μ*, but it satisfies the higher ranked *V-to-μ* and $(*[+cont, Lab] \& Parse-Seg-to-σ)^2$. For this reason, (a) is the winning candidate.

Tableau 2: *so [š]káf-om* ‘with wardrobe’

/so š k á f o m/	$(*[+cont, +strid] \& Parse-Seg-to-σ)^2$	V-to-μ	Dep-μ
			*
		*!	
	*!		

In Tableau 2, output (b) immediately loses because it violates the highly ranked constraint *V-to-μ*. Output (c) does not win because it violates the highly ranked $(*[+cont, +strid] \& Parse-Seg-to-σ)^2$. Output (a) violates *Dep-μ*, but it is the winning candidate because it satisfies the higher ranked *V-to-μ* and $(*[+cont, +strid] \& Parse-Seg-to-σ)^2$.

As adjacent unparsed stops (identical or not) are allowed in Russian, the constraint $(*[-son] \& Parse-Seg-to-σ)^2$ must be ranked lower than *Dep-μ*. It is more important not to insert a mora than to avoid unparsed *obstruent + obstruent* sequences (22).

(22) **Dep-μ** >> $(*[-son] \& Parse-Seg-to-σ)^2$

Since *V-to-μ* outranks *Dep-μ*, the following constraint ranking is in place (23).

(23) **V-to- μ >> Dep- μ >> (*[-son] & Parse-Seg-to- σ)²**


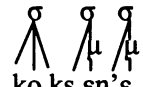

The alternative to inserting a mora (or realizing a *jer*) is deleting a *jer*. In that case, it would incur a violation of *Max-V* (24).

(24) **Max-V: Input vowels must have output correspondents**

Max-V must be ranked lower than *Dep- μ* , because for data like *k [k]s'én'-e* 'to Ksenja', it is more important not to insert a mora than to avoid deletion of a vowel. In other words, deletion is the default, but it is blocked in certain cases due to higher-ranked constraints. There is no crucial ranking between (*[-son] & Parse-Seg-to- σ)² and *Max-V*, therefore, the following constraint ranking is in place (25).

(25) **V-to- μ >> Dep- μ >> (*[-son] & Parse-Seg-to- σ)², Max-V**

Tableau 3: *k [k]s'én'-ε* 'to Ksenja'

μ μ /k _o ksen'ε/	V-to- μ	Dep- μ	(*[-son] & Parse-Seg-to- σ) ²	Max-V
 <p>a. k o k sen'ε</p>		*!		
 <p>b. ko ks en'ε</p>	*!			
 <p>©c. k[k] se n' ε</p>			*	*

In Tableau 3, output (a) violates the highly ranked constraint *Dep- μ* , so it loses. Output (b) violates the highly ranked constraint *V-to- μ* , so it does not win. Although output (c) violates the lower-ranked constraints, it is the winning candidate because it satisfies the highly ranked *V-to- μ* and *Dep- μ* .

To conclude, the following constraint ranking has been proposed for Russian *jer* vowels between unparsed identical segments (26).

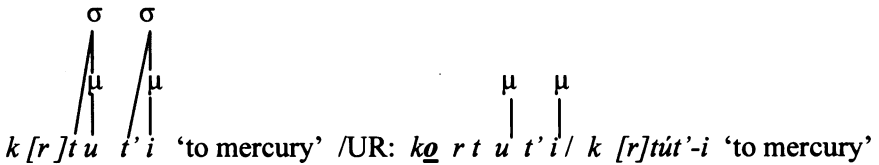
- (26) $V\text{-to-}\mu, (*[+\text{cont}, \text{Lab}] \ \& \ \text{Parse-Seg-to-}\sigma)^2, (*[+\text{cont}, +\text{strid}] \ \& \ \text{Parse-Seg-to-}\sigma)^2 \gg \text{Dep-}\mu \gg (*[-\text{son}] \ \& \ \text{Parse-Seg-to-}\sigma)^2, \text{Max-V}$

5.2 An OT Analysis of Jers before Unparsed Sonorants

I showed in §4 that speakers from the younger group strongly prefer not to realize a *jer* before unparsed sonorants, while speakers from the older group strongly prefer to realize one. Thus, I propose that there are two simultaneously existing grammars in Contemporary Russian: *Grammar 1* belongs to the younger speakers, and *Grammar 2* belongs to the older speakers. These grammars can be accounted for by a re-ranking of the same OT constraints⁶.

In Grammar 1, it is more important to avoid insertion of a mora than to syllabify an unparsed sonorant (27).

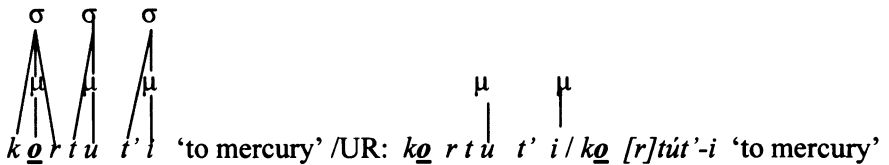
- (27) Grammar 1 (younger speakers):



In (27), a mora is not inserted in the preposition k_0 'to', and the sonorant [r] remains unparsed into a syllable.

In Grammar 2, it is more important to syllabify a sonorant than to avoid insertion of a mora (28).

- (28) Grammar 2 (older speakers):

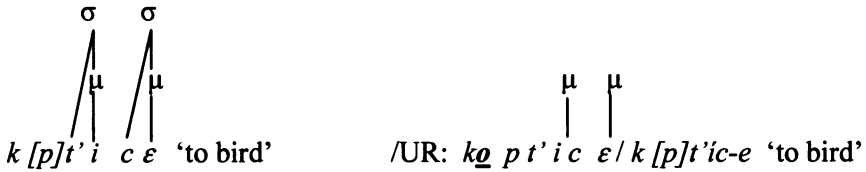


⁶ In Russian, there are a number of idiomatic expressions, like $k_0 mn'-é$ 'to me' and $s_0 vtór-ím$ 'with the second one' (Timberlake 2004), which are used with a *jer* by the speakers of both grammars. This idiomaticity does not fall out from the constraint ranking proposed here (thank you to an anonymous reviewer for pointing this out).

In (28), a mora is inserted in the preposition, and the sonorant [r] is parsed into the syllable.

Although a prepositional *jer* may or may not be realized before an unparsed sonorant (depending on the grammar of the speaker), all speakers unanimously agree that there is no *jer* before unparsed obstruents. Thus, in *k [p]t'ic-ε* 'to bird' and *k [s]túl-u* 'to chair', there is no *jer*. So, for both groups of speakers, it is more important to avoid insertion of a mora, than to syllabify an unparsed obstruent (29).

(29) Before unparsed stops (all speakers):



The following OT constraints are used to account for this (30).

- (30) a. **Parse-R-to-σ**: Each resonant must be parsed into a syllable (Shaw 2002)
- b. **Parse-O-to-σ**: Each obstruent must be parsed into a syllable (Shaw 2002)

Grammar 1 speakers avoid insertion of a mora, but leave the sonorant unparsed into a syllable; therefore, **Dep-μ** >> **Parse-R-to-σ**.

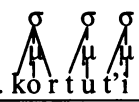

Grammar 2 speakers syllabify the sonorant but insert a mora in the preposition; therefore, **Parse-R-to-σ** >> **Dep-μ**.

Neither group of speakers inserts a mora before an unparsed obstruent, and for this reason, **Dep-μ** >> **Parse-O-to-σ**.

Thus, the two grammars of Contemporary Russian are as in (31):



- (31) a. Grammar 1: **Dep-μ** >> **Parse-R-to-σ**, **Parse-O-to-σ**
- b. Grammar 2: **Parse-R-to-σ** >> **Dep-μ** >> **Parse-O-to-σ**

Tableau 4: Grammar 1 (*k rtút'-i* 'to mercury')

μ μ /k σ rtu t'i/	<i>Dep-μ</i>	<i>Parse-R-to-σ</i>	<i>Parse-O-to-σ</i>
a. 	*!		
☺ b. 		*	*

In Tableau 4, output (a) loses because it violates the highly ranked constraint *Dep- μ* . Output (b) violates only lower-ranked constraints *Parse-R-to- σ* and *Parse-O-to- σ* , and therefore it wins.

Tableau 5: Grammar 2 (*k σ rtút'-i* 'to mercury')

μ μ /k σ rtu t'i/	<i>Parse-R-to-σ</i>	<i>Dep-μ</i>	<i>Parse-O-to-σ</i>
☺ a. 		*	
b. 	*!		*

In Tableau 5, output (a) is the winning candidate. Although it violates the lower-ranked constraint *Dep- μ* , it satisfies the higher ranked *Parse-R-to- σ* , and so it wins.

The proposed Grammar 1 and Grammar 2 correctly account for the data with prepositional *jers*; however, Grammar 2 makes incorrect predictions concerning *jers* in root syllables. For example, it predicts that a *jer* should be realized in **r σ t-ú* 'mouth', while in the grammatical example *rt-ú* /*r σ t-u*/ 'mouth', there is no *jer*. This problem is avoided if the constraint *Dep- μ* is taken to refer to a morphological stem (32).

(32) **Dep- μ (stem)**: Output mora in the stem has input correspondent

For the Grammar 2 speakers, it is more important not to insert a mora in the stem than to parse a sonorant (33).

(33) **Dep-μ(stem) >> Parse-R-to-σ >> Dep-μ**

Tableau 6: Grammar 2 (*rt-ú /rot-u/* ‘mouth_{LOC}’)

μ /rotu/	<i>Dep-μ (stem)</i>	<i>Parse-R-to-σ</i>	<i>Dep-μ</i>
☺ a. [r]t ^μ u ^μ		*	
b. ro ^μ tu ^μ	*!		

In Tableau 6, (b) loses because it violates the highly ranked constraint *Dep-μ (stem)*. Output (a) violates *Parse-R-to-σ*, but satisfies higher ranked *Dep-μ*, and therefore, it wins.

Tableau 7: Grammar 2 (*ko rtú-t'-i* ‘to (the) mercury’)

μ μ /ko rtú t'í/	<i>Dep-μ (stem)</i>	<i>Parse-R-to-σ</i>	<i>Dep-μ</i>
☺ a. ko ^μ r. ^μ t ^μ u. ^μ t'í ^μ			*
b. k [r] t ^μ u. ^μ t'í ^μ		*!	

In Tableau 7, (b) loses because it violates *Parse-R-to-σ*. Output (a) violates the lower ranked *Dep-μ*, so it is the winning candidate.

The proposed ranking also accounts for data such as *ko rt-ú /ko rot-u/* ‘to mouth’, where the prepositional *jer* is realized but the *jer* in the root is not realized.

Tableau 8: Grammar 2 (*kə rt-ú /kə rot-u/* ‘to mouth_{LOC}’)

<i>/kə rotu/</i>	<i>Dep-μ (stem)</i>	<i>Parse-R-to-σ</i>	<i>Dep-μ</i>	<i>Parse-O-to-σ</i>
a. k [r]t ^μ ú		*!		*
☺b. k ^μ o ^μ r ^μ t ^μ ú			*	
c. k ^μ r ^μ o ^μ . t ^μ ú	*!			*
d. k ^μ o ^μ . r ^μ o ^μ . t ^μ ú	*!		*	

In Tableau 8, (c) and (d) violate the highly ranked *Dep-μ (stem)*, so they lose. Output (a) satisfies *Dep-μ*, but it loses because it violates the higher constraint *Parse-R-to-σ*. Output (b) violates *Dep-μ*, but satisfies the higher ranked *Parse-R-to-σ*, and therefore, it is the winner.

But is there a crucial ranking between *Dep-μ* and *Parse-O-to-σ*? I show that there is: *Dep-μ* should outrank *Parse-O-to-σ*. This ranking is determined by the example *k ps-u /kə p'os-u/* ‘to dog’, in which there are two *jers* underlyingly—in the root and in the preposition—but neither of them is realized in Grammar 2. For Grammar 2 speakers, it is more important not to insert a mora in the preposition than to parse an obstruent.

Tableau 9: Grammar 2 (*k ps-u /kə p'os-u/* ‘to dog_{LOC}’)

<i>/kə p'osu/</i>	<i>Dep-μ(stem)</i>	<i>Dep-μ</i>	<i>Parse-O-to-σ</i>
☺ a. [k p]s ^μ ú			**
b. k ^μ o ^μ p ^μ . s ^μ ú		*!	
c. [k] p' o ^μ . s ^μ ú	*!		*
d. k ^μ o ^μ . p' o ^μ . s ^μ ú	*!	*	

In Tableau 9, (c) and (d) violate the highly ranked *Dep-μ (stem)* constraint; therefore, they lose. Output (b) satisfies *Parse-O-to-σ*, but violates the higher-ranked constraint *Dep-μ*, so it does not win. Output (a) violates *Parse-O-to-σ* twice, but it is the winning candidate because it satisfies all higher-ranked constraints in the tableau.

Based on these findings, the proposed Grammar 1 and Grammar 2 should be revised to take into account *Dep-μ (stem)* (34).

- (34) a. Grammar 1: **Dep-μ (stem), Dep-μ >> Parse-R-to-σ, Parse-O-to-σ**
 b. Grammar 2: **Dep-μ (stem) >> Parse-R-to-σ >> Dep-μ >> Parse-O-to-σ.**

6 Conclusions

This paper shows that *jers* in Russian prepositions behave differently from *jers* in Russian prefixes. If a prefixal *jer* is realized before a stem that underlyingly contains another *jer* (Yearley 1995), a prepositional *jer* is realized to break up unparsed sequences of *labial fricative + labial fricative* and *sibilant fricative + sibilant fricative*. A prepositional *jer* is never realized to break up unparsed *stop+stop* sequences. Based on these findings, the following constraint ranking has been proposed for Russian prepositional *jers*:

V-to-μ, (*[+cont, Lab] & Parse-Seg-to-σ)², (*[+cont, +strid] & Parse-Seg-to-σ)² >> Dep-μ >> (*[-son] & Parse-Seg-to-σ)², Max-V.

This paper also shows that younger speakers of Russian prefer not to realize a *jer* before an unparsed sonorant, while older speakers prefer to realize one in this context. I propose that in Contemporary Russian there are two co-existing grammars: Grammar 1 used by younger speakers and Grammar 2 used by older speakers. These two grammars can be accounted for by a re-ranking of the same OT constraints.

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Another Look at Multiple *Wh*-Questions in Czech*

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In the substantial literature on multiple *wh*-movement in Slavic, there is agreement that the initial *wh*-expression in what Rudin (1988) calls Minus Multiply Filled Specifier languages ([-MFS]) (Czech, Polish, Serbo-Croatian) appears at the left edge of the clause. The exact position of lower *wh*-phrases, however, has been the subject of debate. Rudin (1988) and Richards (2001) assume that these *wh*-XP's adjoin to IP. Stjepanović (1998), on the other hand, provides evidence from adverb placement that they adjoin lower in Serbo-Croatian (see also Bošković 1998, 2002). Czech is an interesting case study for this question due to specific ordering restrictions on elements in the left periphery. Syntactically placed second-position clitics, for instance, allow the structural position of non-initial *wh*-expressions to be probed with rigor.

Rather than assuming, as in Rudin (1988) for [-MFS] languages, that non-initial *wh*-expressions adjoin to the highest inflectional projection, I provide evidence that non-initial *wh*-phrases, instead, adjoin lower in the clause, to the highest verbal projection.¹ Certain predictions follow from this analysis. One such prediction is that scrambled non-*wh* XP's in the Czech middlefield should be able to intermingle with *wh*-phrases. This is what is found, see (1).

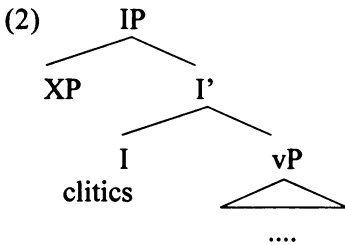
* I would like to thank Judith Aissen, Vera Griбанov, Shin Ishihara, Emily Manetta and James McCloskey for helpful comments on this project. I am also indebted to my primary Czech consultant, Kristina Valentinová, for her help with the data. All remaining errors are my own.

¹ For an overview of Czech *wh*-movement see Toman (1981) and Koktova (1999). Meyer (2003) considers the interpretation of multiple *wh*-questions in Czech.

- (1) Kde jsi (včera večer) koho (včera večer) komu
 where AUX.2SG.CL last night who_{ACC} last night who_{DAT}
 představila?
 introduced
 ‘Where did you introduce who to whom last night?’
 Lit: ‘Where did (last night) who (last night) whom introduce?’

1 Czech Clause Structure

Two functional heads, I^0 and v^0 , provide anchoring positions which allow us to identify the structural position of XP’s within the clause. Following the literature on Czech, I assume that second position clitics are syntactically positioned in I^0 (see Fried 1994, Veselovská 1995, Lenertová 2001). These elements delineate a unique left peripheral A-bar position, [Spec, IP].²



It is ungrammatical for more than one XP to precede the clitic cluster in assertions, see (3).³

- (3) *Honzovi knížku jsem dala.
 Honza book AUX.1SG.CL gave
 Intended: ‘I gave Honza a book.’

In addition to a restriction on the number of pre-clitic XP’s, there is also a restriction on their discourse interpretations. [Spec, IP] can be filled by an XP with one of the following discourse interpretations: focus,

² I assume that assertions in Czech lack a CP shell (see Lenertová 2001 for another approach to the Czech left periphery).

³ Abbreviations: *C* (complementizer), *INF* (infinitive), *COND* (conditional), *AUX* (auxiliary), *CL* (clitic), *REFL* (reflexive), *FEM* (feminine), *MASC* (masculine), *NEUT* (neuter), *SG* (singular), *PL* (plural), *ACC* (accusative), *DAT* (dative).

contrastive topic, or continuing topic. In (4), a contrastive topic fills [Spec, IP] and is associated with a rising pitch contour (for left peripheral XP's with other discourse functions, see Sturgeon 2006).⁴

- (4) a. Co jsi koupila synům k svátku?
 what AUX.1SG.CL bought sons towards name-day
 'What did you buy your sons for their name days?'
 b. Honzovi_{CT} jsem koupila autíčko a Petrovi_{CT} knížku.
 Honza AUX.1SG.CL bought car and Petr book
 'Honza_{CT} I bought a car and Petr_{CT} a book.'

Additional evidence that contrastive topics appear in [Spec, IP] comes from their position immediately following the complementizer in embedded clauses, (5).

- (5) Myslím si, že Honzovi_{CT} koupím autíčko a Petrovi_{CT} knížku.
 think REFL-CL C Honza buy car and Petr book
 'I think I will buy Honza_{CT} a car and Petr_{CT} a book.'

The position of the left peripheral contrastive topic plays an important role in section 3 in determining the position of non-initial *wh*-expressions.

1.1 The Position of the Verb

I follow Veselovská (1995) in assuming that the lexical verb remains low in the syntax, raising from V^0 to v^0 , but no higher. One piece of evidence supporting this proposal comes from the fact that VP adverbs must precede the lexical verb, (6) (see Sturgeon 2006 for additional evidence from VP Ellipsis).

- (6) Honza často líbá (*často) Marii.
 Honza often kisses often Marie
 'Honza often kisses Marie.' (Veselovská 1995: 83, (7))

⁴ Due to space limitations, it is not possible to explain in detail what is meant by the term 'contrastive topic'. I assume the formal pragmatics of contrastive topic presented in Büring (2003) and apply his analysis to Czech in Sturgeon (2006); for seminal work on contrastive topic in Czech see Hajičová et al. (2003), Veselá et al. (2003), Hajičová and Sgall (2004).

This behavior of VP adverbs is in line with the assumption that VP adverbs obligatorily adjoin to the functional shell dominating the VP (vP).

Modal verbs such as *mocet* ('can_{INF}'), *muset* ('must_{INF}'), and the future form of *být* ('be_{INF}') behave differently than lexical verbs. VP adverbs can both precede and follow these elements, see (7).

- (7) *Zeměměřič (často) bude (často) zpracovávat zakázky v různých lokalitách.*
 land-surveyor often will often work_{INF} orders in various locations
 'Land-surveyors will often work on jobs at various locations.'
 (www.gepro.cz/new/clanky/atlas_.htm)

This suggests that modals appear in a higher projection than do lexical verbs. I assume that modals are base-generated in v^0 and select for infinitival vP's. The position of VP adverb placement in (7) is consistent with an analysis that, like lexical verbs, Czech modals do not raise to I^0 , but remain within the vP domain. The post-modal position of the adverb, *často* ('often'), though not the preverbal position, is also consistent with an analysis in which modals can optionally raise to I^0 . As it is not crucial to my analysis, I remain agnostic about the position of modals when the position of VP adverbs does not require that they be positioned in v^0 .⁵

1.2 The Czech Middlefield

I define the syntactic domain between the inflectional head, I^0 , and the verbal head, v^0 , as the Czech 'middlefield'. Within this domain, any number of scrambled XP's appear in any order, (8).

- (8) a. *Já bych prádlo z okna nikdy nepověsil.*
 I COND.CL laundry from window never NEG-hung
 'I would never hang my laundry from the window.'
 (www.okoun.cz/boards/nikdy_bych...)

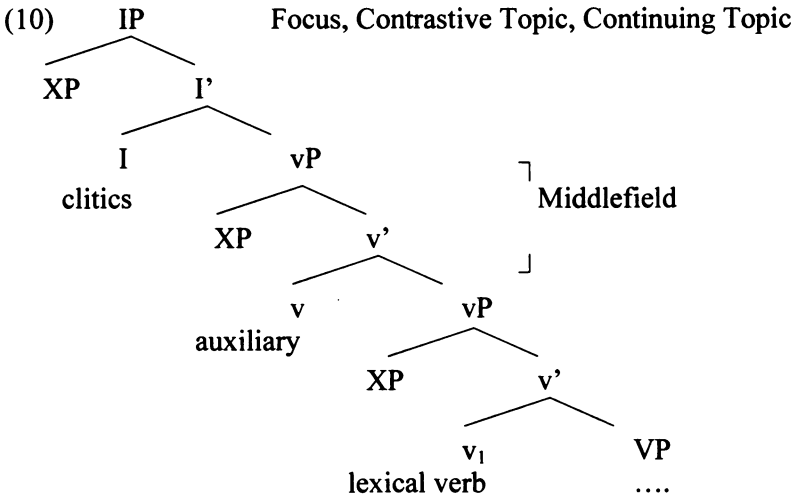
⁵ There are conditions under which both lexical verbs and modals do raise to I^0 . When no XP appears in [Spec, IP], I follow Alexiadou and Anagnostopoulou (1998) in suggesting that the highest verbal element (lexical verb or modal) raises to I^0 to satisfy the EPP on that head.

- b. Já jsem včera večer od Matyáška zase dostala
 I AUX.1SG.CL yesterday night from Matyášek again got
 takovou nakládačku...
 such kick
 ‘Again last night I got such a kick from Matyášek...’
 (www.emimino.cz/modules.php?name=News&file=article&sid=4400)

Due to the lack of ordering restrictions on these scrambled XP’s, I assume that they are adjuncts and not specifiers of vP projections. As expected for vP adjuncts, middlefield XP’s can both precede and follow auxiliary verbs, (9).

- (9) Marie (za to) bude (za to) platit.
 Marie after it will after it pay.INF
 ‘Marie will pay for it.’

In (10), a schematic tree of the Czech clausal structure is provided.



The scrambling evidenced in the Czech middlefield is similar to what has been described as ‘short-distance’ A-scrambling by Mahajan (1990) for Hindi (for Japanese see Nemoto 1999, Miyagawa 2005, among others). Certain characteristics of this type of scrambling are suggestive of A-movement. For instance, new binding relationships can be

established among scrambled XP's. Scrambling to the Czech middlefield amnesties WCO violations, (11).

- (11) Včera každého kluka₁ jeho₁ matka napomenula.
 yesterday every boy his mother scolded
 'Yesterday every₁ boy was scolded by his₁ mother.'
 Lit: 'Yesterday every boy₁ his₁ mother scolded.'

I assume that movement to the middlefield is A-scrambling, but I remain agnostic on the exact mechanism of the movement (see Miyagawa 2005 for an EPP-style analysis).⁶

2 The Syntax of *Wh*-Movement in Czech

Like scrambled XP's in the middlefield, I assume that *wh*-phrases also undergo A-scrambling and adjoin to vP (for a similar analysis, see Richards 2001 for Serbo-Croatian). Evidence that this is the correct analysis comes from the fact that, like scrambling to the middlefield, there are no WCO effects when *wh*-phrases are fronted, see (12).

- (12) Kde kterého₁ chlapce jeho₁ matka vyzvedla?
 where which boy his mother picked-up
 'Where was which₁ boy picked up by his₁ mother?'
 Lit: 'Where which₁ boy his₁ mother picked up?'

I assume that all *wh*-expressions undergo A-scrambling to the vP domain and this movement operation amnesties WCO effects. The highest *wh*-expression in the middlefield then undergoes an additional movement to [Spec, CP] to satisfy the featural requirements of both the *wh*-expression and C⁰. Other researchers (such as Bošković 1998, 2002; Stjepanović 1998) suggest that, in short-distance questions, initial *wh*-phrases do not undergo *wh*-movement to [Spec, CP] but rather, front due to focus-related movement to a position lower than [Spec, CP]. For Czech, I will be assuming that the initial *wh*-expression does undergo *wh*-movement to [Spec, CP].

⁶ An anonymous reviewer pointed out that WCO can be an unreliable test for A-movement. Further research on this topic, using tests such as anaphor binding, is merited.

The analysis of Czech multiple *wh*-movement being developed here is compatible with Rudin's (1998) categorization of Czech as a –Multiply Filled Specifier language. Rudin hypothesizes that multiple *wh*-fronting languages fall into two categories: (+Multiply Filled Specifier, [+MFS]) and (-Multiply Filled Specifier, [-MFS]). Languages such as Bulgarian and Romanian allow multiple movement to [Spec, CP] ([+MFS]), while [-MFS] languages, such as Czech and Serbo-Croatian, restrict movement to [Spec, CP] to one *wh*-expression and adjoin other *wh*-phrases to a lower projection.

Czech exhibits two key characteristics of [-MFS] languages: *wh*-island effects and a lack of Superiority effects. The prediction is that [+MFS] languages should not exhibit *wh*-island effects since there are multiple specifier positions of C^0 in the embedded domain through which multiple *wh*-phrases can move, thereby escaping embedded clauses. Consider (13) for Bulgarian. It is fairly acceptable for a heavy *wh*-phrase to escape a *wh*-island.

- (13) ?[Koja ot tezi knigi]₂ se čudiš koj znae koj₁ prodava t₁ t₂?
 which of these books REFL-CL wonder who knows who sells
 '[Which of these books]₂ do you wonder who knows who₁ sells t₁
 t₂?'
 (Rudin 1988: (20b))

[-MFS] languages, on the other hand, exhibit *wh*-island effects since there is only one embedded specifier position of C^0 . If this position is filled, as it is in embedded *wh*-questions, additional *wh*-phrases are restricted from moving out of the embedded clause. This restriction holds in Czech, see (14).

- (14) *Komu₂ by tebe zajímalo koho₁ Marie představila t₁ t₂?
 who_{DAT} COND.3SG.CL you interested who_{ACC} Marie introduced
 Lit: 'To whom₂ do you wonder who₁ Marie introduced t₁ t₂?'

The second diagnostic is Superiority. Czech patterns with other [-MFS] languages in that it lacks Superiority effects in *wh*-questions. [+MFS] languages, on the other hand, respect Superiority; this is expected as movement to specifier positions is motivated by features of the attracting head, C^0 . The highest *wh*-phrase within the clause is attracted first and moves into the highest specifier position; lower *wh*-phrases move to lower specifier positions of C^0 . *Wh*-movement in Bulgarian, [+MFS] language, respects Superiority, (15a-b).

- (15) a. Koj kogo vižda?
 who_{NOM} who_{ACC} sees
 ‘Who sees who?’
 b.*Kogo koj vižda?
 who_{ACC} who_{NOM} sees
 Intended: ‘Who sees who?’

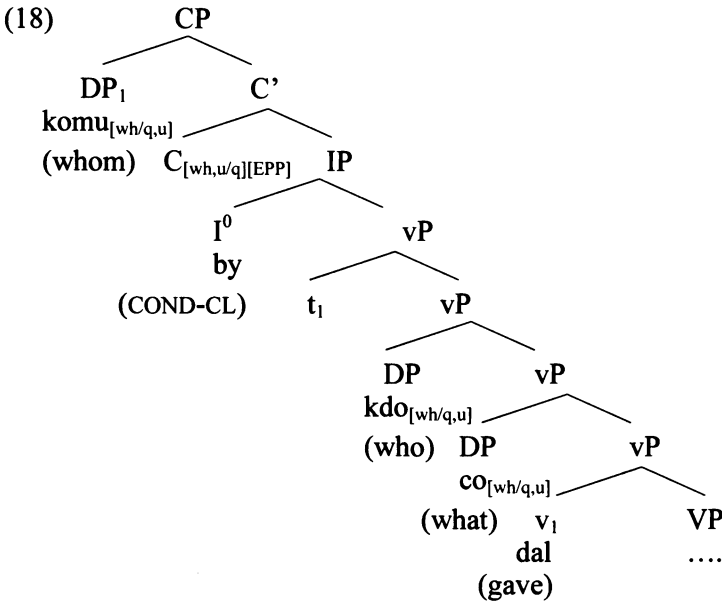
Czech, in contrast, entirely lacks Superiority effects in multiple *wh*-questions, in both matrix and embedded questions, (16).

- (16) a. Komu kdo co dal?
 who_{DAT} who_{NOM} what_{ACC} gave
 ‘Who gave what to whom?’
 Lit: ‘To whom who what gave?’
 b. Přestal se starat, co si kdo o čem myslí.
 stopped REFL-CL care_{INF} what REFL-CL who about what thinks
 ‘He stopped caring about who thought what about what.’
 (Meyer 2003: (8))

This lack of superiority is linked to the structural position of lower *wh*-expressions in Richards (2001).⁷ He argues that the lack of superiority effects is a direct result of the possibility of adjunction to a lower functional head in [-MFS] languages. Since the order of adjoined XP’s is not restricted, if *wh*-phrases first adjoin to a lower functional projection and then the highest *wh*-expression raises to the specifier position of the attracting head, superiority effects are not expected. This analysis is illustrated for (17) in the tree in (18).

- (17) Komu by kdo co dal?
 who_{DAT} COND-CL who_{NOM} what_{ACC} gave
 ‘Who would give what to whom?’

⁷ Bošković (1997, 2002), on the other hand, links the lack of Superiority in short-distance *wh*-movement in Serbo-Croatian to the type of movement *wh*-expressions undergo: focus fronting, not *wh*-movement to [SpC, CP].



I follow standard assumptions about *wh*-movement: movement is motivated by an interpretable *q* and an uninterpretable *wh* feature on the attracting head (C^0) and an uninterpretable *q* and interpretable *wh* feature on the *wh*-XP. The features of the non-initial *wh*-expressions are checked by C^0 through Static Agree.

3 Further Predictions of the Analysis

Thus far, I have suggested that both *wh*-phrases and middlefield XP's adjoin to vP , and are, thus, syntactically positioned between two head positions: I^0 and v^0 . In section 1.2 I provided evidence supporting this analysis for scrambled XP's, see (8). Parallel evidence exists for positioning non-initial *wh*-expressions within this domain as well.

The evidence presented in this section provides counter-evidence to Rudin (1988) and Richards (2001), which argue that low *wh*-expressions adjoin to an inflectional projection. It further supports the proposals put forth in Stjepanović (1998) and Bošković (1998, 2002) that non-initial *wh*-expressions are in structural positions relatively low in the left periphery. The rigid structure of the Czech left periphery allows us greater insight into the structural position of these *wh*-expressions than has been possible in Serbo-Croatian.

If non-initial *wh*-expressions adjoin to vP, they, like middlefield non-*wh*-XP's, should also follow second-position clitics and precede the lexical verb, see (19), repeated from (17).

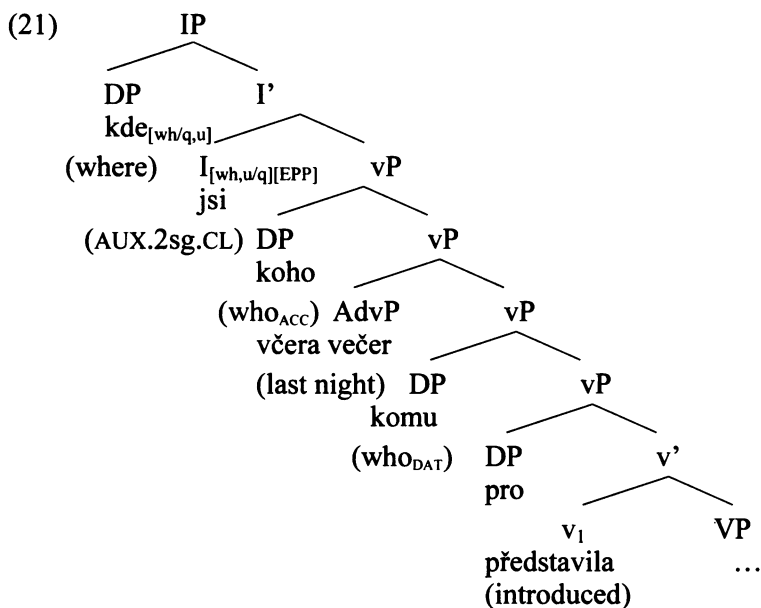
- (19) Komu by kdo co dal?
 who_{DAT} COND-CL who_{NOM} what_{ACC} gave
 'Who would give what to whom?'

In this domain they also intervene between scrambled XP's. This is what is found, (20), repeated from (1).

- (20) Kde jsi (včera večer) koho (včera večer) komu
 where AUX.2SG.CL last night who_{ACC} last night who_{DAT}
 představila?
 introduced
 'Where did you introduce who to whom last night?'
 Lit: 'Where did (last night) who (last night) who introduce?'

The adjoined XP, *včera večer* ('last night'), can either precede the *wh*-expressions or intervene between them.⁸ *Komu* ('who_{DAT}') adjoins to the lowest vP projection and the adjunct, as well as *koho* ('who_{ACC}') adjoin to higher vP projections. The tree in (21) illustrates the proposed structure.

⁸ Speakers prefer the adjunct to precede the *wh*-phrases, rather than split them, but both orders are reported to be possible.



In section 1, I showed that contrastive topics are among the elements that obligatorily appear in the first position in the clause, preceding the clitic cluster. Contrastive topics can also appear in *wh*-questions and are identifiable by the intonational contour associated with them (see Veselá et al. 2003, Sturgeon 2006 for a phonetic analysis of the prosody of these elements). The *wh*-expression in (22) immediately precedes the contrastively topicalized DP, which appears in [Spec, IP]. Additional evidence for the structural position of the contrastive topic is that the clitic (in I⁰) follows it.⁹ Second position clitics appear in the third position just when a *wh*-expression co-occurs with a contrastive topic. The discourse context for this example considers alternatives to Ema: ‘And Josef, he likes the idea’.

⁹ The clitic can optionally precede the contrastively topicalized DP. I assume, in that case, that the clitic has raised from I⁰ to C⁰. The exact analysis of this head movement is an issue for future research.

- (22) A co Ema_{CT} by na to řekla?
 and what Ema COND.3SG.CL on it say
 ‘And what would Ema say about that?’
 (Lenertová 2001: (8))

When contrastive topics appear in multiple *wh*-questions, they appear obligatorily between the first and second *wh*-expression. Other positions of the contrastive topic are considerably degraded, if not ungrammatical, (23).

- (23) Koho ty_{CT} jsi komu kde (??ty_{CT}) představila?¹⁰
 who_{ACC} you AUX.2SG.CL who_{DAT} where you introduced
 ‘Who did you_{CT} introduce to whom where?’
 Lit: ‘Who you_{CT} to whom where introduced?’

To accommodate both the *wh*-expression and the contrastive topic in (23), IP must intervene between the position of the first *wh*-phrase and lower phrases.

The final piece of evidence supporting a low position of non-initial *wh*-expressions is their position with respect to non-clitic modals. Recall that these verbs head vP projections, as shown in section 1 by the position of VP adverbs. Like middlefield XP’s, non-initial *wh*-expressions can either precede or follow modals, see (24).

- (24) a. Kdo bude koho volit?
 who will who_{acc} vote-for.INF
 ‘Who will vote for whom?’
 Lit: ‘Who will for whom vote?’
 (www.ahasweb.cz/hovory/23.htm)
- b. Kdo koho bude volit?
 who who_{acc} will vote-for.INF
 ‘Who will vote for whom?’
 Lit: ‘Who for whom will vote?’

¹⁰ Additional positions of *ty* (‘you’), such as splitting the two lower *wh*-expressions, are ungrammatical under the interpretation in (23). *Ty* (‘you’) could appear in a high left peripheral position. This would change the interpretation of the sentence, however. With *ty* (‘you’) in this position, *ty* would be interpreted as a left dislocated element, not a clause-internal contrastive topic.

4 Conclusion

I address a long-standing question in the literature on multiple *wh*-movement in Slavic: what structural positions do non-initial *wh*-phrases target? The particular character of the left periphery in Czech allows us to find strong evidence that non-initial *wh*-expressions adjoin to a position in the vP domain, rather than a position in the inflectional domain (see also Bošković 1998, 2002 and Stjepanović 1998, 2003 for Serbo-Croatian).

The syntactic evidence presented in this paper supports an analysis in which *wh*-expressions first scramble to the vP domain, obviating WCO effects, and then the highest *wh*-phrase in that domain is attracted to [Spec, CP] (see also Richards 2001).

Given the proliferation of functional projections in the left periphery (for instance, the exploded CP-domain of Rizzi 1997), it may seem that drawing a distinction between adjoined structure within the inflectional domain and adjoined structure within the verbal domain is not an important distinction, but I suggest that providing additional evidence for the position of non-initial *wh*-expressions allows us insight into the larger clause structure of [-MFS] *wh*-fronting languages, such as Czech. This line of research contributes to a stronger understanding of the purpose of fronting non-initial *wh*-phrases. The evidence presented here supports an approach to multiple *wh*-fronting like that found in Bošković (2002), ‘focus-motivated fronting’ in multiple *wh*-movement constructions, rather than movement motivated by the features of a head. Czech, with its strict ordering restrictions on the left periphery is an ideal language to turn to for insight into these issues.

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Nothing Wrong with Finite T: Non-Agreeing Accusative Impersonal Sentences*

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1 Introduction and Data

The purpose of the present article is to provide an analysis of different types of accusative impersonal sentences in Slavic languages (henceforth AIs) focusing on often so-called adversity impersonal sentences in Russian (cf. Babby 1994, 1998 among others) given in (1). The common property of AIs in Slavic is, that (i) they exhibit so-called default agreement, sometimes called “non-agreement” (in most cases singular, 3rd person and/or neuter), and that (ii) no overt NP bearing nominative is present—instead the NP bearing structural case (if present at all) is marked with accusative. I will sketch an extension of the presented analysis to other impersonal sentences in Slavic in section 3.2.

As often mentioned, AIs pose a problem for any theory of structural case linking the licensing of the accusative either to the presence of a clausemate NP_{NOM} or an overt external argument (the latter assumption known as *Burzio's Generalization*). In the recent literature on AIs in Slavic (esp. on Russian adversity impersonals), sentences as in (1) have been analyzed by employing notions like “defectiveness” or “ ϕ -incompleteness” to account for the agreement data and the lack of an NP_{NOM} (cf. e.g. Lavine & Freidin 2002, Harves 2003, 2006).

Most authors following standard Chomskyan minimalism (cf. Chomsky 2000, 2001) take defectiveness as a category's lack of (the full

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theoretical problems and wrong predictions. In section 3.1, I will present an alternative analysis of adversity impersonals supported by empirical data from Russian and German dialects (e.g. control into adjunct clauses). Moreover, I will extend the analysis to other AIs in Slavic (section 3.2) providing binding data in support of my analysis.

2 Defective T: Long Distance Evaluation of Arguments

2.1 Cross-Classifying Defective and Complete Categories

As already mentioned, the verbs in (1) apparently do not agree with any of the overt NPs in the sentence. L&F and Harves (2003, 2006) take this lack of morphological agreement to indicate that T itself lacks agreement features altogether, i.e. T is a ϕ -incomplete head which does not have to establish an AGREE-relation with a goal with interpretable ϕ -features (which otherwise serves to value the ϕ -features of the former). Consequently, T also does not value Case features of any of the NPs which are part of the derivation at the stage T is introduced.¹

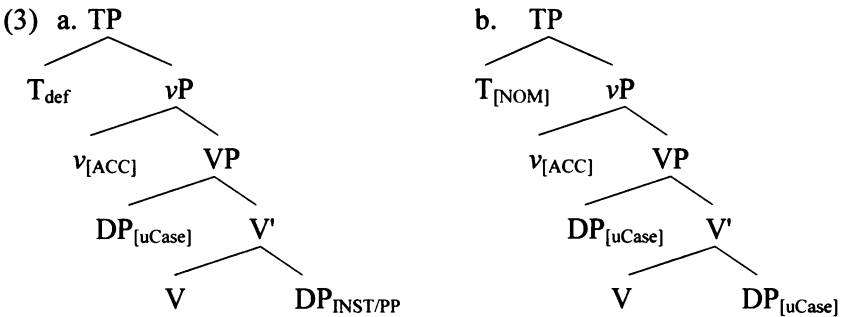
This, however, doesn't mean that T with AIs lacks any agreement morphology, but its morphological Spell Out is not motivated by agreement with an overt NP equipped with interpretable ϕ -features. Besides, the morphological makeup of the verb does not differ in principle from any other finite verbal form, i.e. agreeing and non-agreeing verbal forms (= the morphological Spell Out of the lexical verbal categories plus the functional category T) share most (if not all) features of the feature bundle constituting the category T.

On the other hand, the category v of verbs with AIs (i.e. the category heading the projection of the higher VP-shell and responsible for selection of external arguments with ordinary transitives) is considered by L&F to be ϕ -complete valuing the unvalued Case feature of (one of) the internal argument(s) as structural accusative. But in contrast to "well-behaved" transitives, v of AIs does not select an external argument, which entails the separation of v 's ability to license Case from its selectional properties (contra Burzio's Generalization).²

¹ According to L&F, the category T, however, has an EPP feature which triggers EPP movement of an NP targeting TP (cf. also Bailyn 2004, Nevins & Anand 2003 among others).

² Tsedryk (2004) assumes that AIs lack the category selecting an external argument altogether ("Voice" in his terms). However, they are equipped with a category licensing accusative (Cause). This move shifts incompleteness to the

In addition, L&F assume a derivation where both NPs in (1) and (2) are initially merged in the domain of the verbal root represented by V, cf. the slightly modified representations in (3). The structure in (3a) yields a derivation of AIs, where the verb's Theme argument in Spec-of-V has unvalued Case-features valued by ϕ -complete ν (indicated by subscripted [ACC] in (3a)). T is defective and the second argument is assigned lexical Case in L&F's analysis (default instrumental in Tsedryk 2004). The representation in (3b) with a ϕ -complete T (cf. subscripted [NOM]) yields a 'personal' nominative-accusative sentence as in (2) where the unvalued Case-features of V's complement are valued by T as nominative (see the sections 2.3-2.5 for a critical discussion of these assumptions).



Thus, with respect to completeness and defectiveness, in L&F's system a sentence containing an unaccusative verbal root (i.e. verbs with a ν not selecting for an external argument) in principle may have the combinations of the categories T and ν as in (4). (4a) represents mono-argumental unaccusatives (V selects for one internal argument). (4b,c) are represented by (3b,a) respectively. The combination of defective T and defective ν as in (4d) is ungrammatical—at least with verbal roots selecting for a Theme argument (but see Harves 2006 for arguments in favor of an analysis including both T_{def} and ν_{def} for AIs involving the genitive of negation or distributive *po*-phrases). Also note that (4b), of course, is the specification for ordinary transitive verbs with a ν selecting for an external argument which, according to L&F, differ from personal adversity verbs.

domain of the split ν P (consisting of the categories Voice and Cause, cf. e.g. Pykkänen 1999 for a detailed discussion of a split ν P). In Tsedryk's analysis, T's unvalued ϕ -features are Spelled Out with default morphology.

- (4) a. $T_{\text{comp}}/v_{\text{def}}$ (*Ivan izčez.* ‘Ivan disappeared’)
 b. $T_{\text{comp}}/v_{\text{comp}}$ (*Pulja ranila soldata.* ‘The bullet wounded a/the soldier.’)
 c. $T_{\text{def}}/v_{\text{comp}}$ (*Soldata ranilo pulej.* ‘A/the soldier was wounded by a bullet.’)
 d. $*T_{\text{def}}/v_{\text{def}}$ (* if unaccusative, but *Temnelo.* ‘It was getting dark.’)

At first glance, the system in (4) seems to work perfectly. But there are several serious problems with this analysis, especially if one assumes a strictly derivational computational system (i.e. a crash-proof system in the sense of Frampton & Gutmann 2002).

2.2 Non-Local Relations and Derivational Dead Ends

The most serious theoretical problem for a cross-classification as in (4) is the problem of *derivational dead ends*, i.e. combining V with v_{comp} in AIs restricts the featural makeup of T. Moreover, the specification of the categories v and T with respect to ϕ -completeness heavily depends on lexical information, though there seems to be no principled connection between the property of having (the full range of) ϕ -features (thus, the ability to license case) and the type of the predicate merged with v , especially if one loosens the correlation between the selection of an external argument and the licensing of structural accusative. In the following, I will go into the problem in more detail.

L&F assume that any v combining with an unaccusative can potentially assign structural accusative to an argument of V. But those derivations can only survive under particular conditions: If mono-argumental unaccusative roots combine with a ϕ -complete v , the category T is not allowed to be ϕ -complete, though T is not introduced (not part of the derivation), yet. So, a ϕ -complete T with unaccusatives is allowed only if there is either a second internal argument or v is ϕ -defective, i.e. if mono-argumental unaccusatives "wanted" to combine with a ϕ -complete T, they had to assure that v stayed ϕ -incomplete.

These assumptions apparently increase the number of derivational dead ends. Nothing prevents the system from combining a mono-argumental unaccusative V like *izčeznut'* ‘disappear’ with ϕ -complete v and ϕ -complete T leading into a crash as in (5). The ϕ -features of T would remain unvalued (in fact, the verb in (5b) shouldn't exhibit any morphological output).

- (5) a. [TP ... T_{comp} [vP v_{comp} [vP izčez Ivan_[iφ/uCase]]]]
 no valuation possible valuation of [uCase] as ACC
- b. * (Ivan-a) izčez-Ø(-l-o) (Ivan-a)
 Ivan_{M:SG:ACC} disappear_{PST-[+AGR/-AGR]} Ivan_{M:SG:ACC}

Even more problematic, the option (4c) is lexically very restricted. T_{def} does not combine with all vP_{comp}. Again, the verb *izčeznut'* combined with v_{comp} and, additionally, undoubtedly transitive verbs are ungrammatical with a specification as in (4c), which is rather unexpected for the category T. T's featural makeup (e.g. temporal features) is otherwise insensitive to the type of the verbal predicate it ultimately combines with.

In addition, a system as in (4) for finite clauses also entails a disjunction of the feature specification of T, i.e. the absence or presence of [uφ] features on T is independent of the absence or presence of temporal features. For Slavic and other Indo-European languages this kind of disjunction is morphologically not motivated (at least for root infinitives, but see embedded inflected infinitives in European Portuguese).

2.3 Equidistance

The second problem involves equidistance of the two internal arguments of (1a) represented in (3a) with respect to functional categories. L&F themselves claim that both arguments are equidistant to T being merged in the domain of the same category, namely V. This assumption accounts for the possible displacement of both NPs to the sentence-initial position which according to L&F is not focus disrupting. L&F analyze this movement as solely driven by the EPP-features of the defective category T and they assume that EPP-features may cause A-movement without any AGREE-relation of features of the attracting category T which is not a probe in the strict sense and the attracted XP, cf. also Nevins & Anand (2004), Bailyn (2004). According to L&F, both sentences in (6) may be felicitously uttered in a context requiring maximal focus.

- (6) a. Soldat-a rani-l-o pul-ej. [Ru]
 soldier_{M:SG:ACC} wound_{PST-[-AGR]} bullet_{F:SG:INST}
- b. Pul-ej rani-l-o soldat-a.
 bullet_{F:SG:INST} wound_{PST-[-AGR]} soldier_{M:SG:ACC}

Moreover, in order to derive the personal sentence (2a) with a representation as in (3b), both arguments have to be equidistant. Otherwise the

higher Theme argument would cause an intervention effect. Being closer to T, it would interrupt the AGREE-relation between the category T and the complement of V.

If it's true that the sentences in (1) and (2) are derivationally linked and provided that both arguments are equidistant to T, than the sentences with ϕ -complete T and ϕ -complete v under (7) should both be possible with the very same interpretation. This prediction, however, is obviously not borne out.

- (7) a. Pul-ja rani-l-a soldat-a. [Ru]
 bullet_{F:SG:NOM} wound_{PST-F:SG} soldier_{M:SG:ACC}
 b. # Soldat- \emptyset rani-l- \emptyset pul-ju.
 soldier_{M:SG:NOM} wound_{PST-M:SG} bullet_{F:SG:ACC}

So, for L&F's assumption of a derivational connection between impersonal and personal versions to work, one has to assume equidistance between both arguments of di-unaccusatives. On the other hand, this leads to undesirable complications and wrong predictions which suggest that there is no such derivational link.

2.4 Instrumental Marking of the Second Argument of AIs

Another problem for L&F's analysis is the instrumental marking of the alleged second internal argument of AIs (the complement of V in (3a)). L&F take the instrumental to be lexical. The question arises, how lexical case can be overridden in the case of non-defective T (cf. (3b)) which licenses structural nominative on the complement of V.³ The valuation of

³ It is true that there are instances in Russian where lexical instrumental seems to behave like structural accusative. (ib) shows passivization of the verb *upravljat'* 'manage' which assigns lexical instrumental to its complement, cf. (ia). This argument can be promoted with passives (the external argument may appear as an instrumental *by*-phrase NP). But this phenomenon is rather marginal (some informants find (ib) rather bad, some perfect, and the majority neither bad nor perfect [24 informants per item]). Besides, it is restricted to a small number of verbs (basically, it is restricted to *upravljat'*; even kindred verbs like *pravit'* 'reign', *rukovodit'* 'direct' are judged significantly worse), others are utterly ungrammatical, cf. (iib) (the same strict ungrammaticality holds for verbs like *bolet'* 'be ill', *dorožit'* 'value', etc.).

- (i) a. Nov-yj direktor upravlja-et fabrik-oj.
 new director_{M:SGNOM} manage_{PRS:3:SG} factory_{F:SG:INST}
 'A/the new director manages the factory.'

the NP's [uCase] has to be postponed until T's status concerning ϕ -completeness is clarified. L&F do not provide any principled account for this shift from lexical instrumental to structural nominative.⁴ In addition, there are also a lot of verbs appearing with PPs in the impersonal version and with structural nominative in the personal one (verbs with experiencer arguments; cf. Tsedryk 2004 for a detailed discussion). It is even more problematic to account for a shift from PPs to structurally case marked NPs in a principled way. This problem also suggests that such personal and impersonal sentences are not derivationally related.

2.5 Passivization with Personal Adversity Sentences

A last problem for the assumption of a derivational relation between personal and impersonal versions of AIs concerns passivization. If one—following Babby (1994, 1998)—assumed such a relation, one would probably also want to follow him in assuming that those sentences do not passivize. This would be a desirable outcome, in fact a necessary consequence of the theoretical assumptions, since (according to the aforementioned accounts) the personal variants lack an external argument and the operation of passivization absorbs only external arguments, i.e. arguments introduced by the category *v*. Babby (1994) provides the following example to corroborate his analysis.

-
- b. [?] Fabrik-a upravlja-et-sja nov-ym direktor-om.
 factory_{F:SGNOM} manage_{PRS:3:SG:SJA} new director_{M:SG:INST}
 'The factory is managed by a/the new director.'
- (ii) a. Ivan trgov-a-l-Ø cvet-ami.
 Ivan_{M:SG:NOM} trade_{PST:M:SG} flowers_{M:PL:INST}
 'Ivan was selling flowers.'
- b. * Cvet-y trgov-a-l-i-s' Ivan-om.
 flowers_{M:PLNOM} trade_{PST:PL:SJA} Ivan_{M:SG:INST}
 'Flowers were being sold by Ivan.'

⁴ Tsedryk (2004) also discusses this problem rejecting L&F's lexical case account. He proposes a default licensing mechanism for NPs whose uninterpretable Case features are not valued by Spell Out of a phase containing this NP ("If a nominal has an active Case feature by the time of Spell-Out, it is marked as INSTR." Tsedryk 2004: 420). A default mechanism for morphological markings is a powerful tool. If the instrumental marking is a global default mechanism for active, unvalued Case features, the question arises, why this mechanism is not available in other contexts, e.g. for external arguments of infinitivals.

- (8) a. Èt-i slov-a vzorva-l-i ego. [Ru]
 these words_{N:PL:NOM} explode_{PST-PL} him_{ACC}
 ‘These words enraged him.’
 b. * On (byl-Ø) vzorva-n-Ø èt-imi slov-ami.
 he_{NOM} AUX_{M:SG} explode_{PPART-M:SG} these words_{N:PL:INST}
 ‘He was enraged by these words.’

But the data are far from being clear cut. First, the sentences significantly improve, if the NP_{INST} is replaced by a PP with the P *ot* ‘from’, cf. footnote 5. This picture is not surprising, if one takes into account that the impersonal versions of these sentences also rather occur with *ot*-PPs than with instrumental NPs, e.g. the verbs *vzbesit* ‘enrage’ and *napugat* ‘frighten’ (cf. Tsedryk 2004 for discussion). Second, the judgments seem to be less harsh than reported by Babby (1994, 1998).⁵ Third, the tendency to reject passives of personal adversity sentences with instrumental *by*-phrases seems to hold only for a subpart of the mentioned verbs. The grammaticality judgments for (9b) and (10b) are rather consistent.

- (9) a. Molni-ja oslepi-l-a Ivan-a. [Ru]
 lightning_{F:SG:NOM} blind_{PST-F:SG} Ivan_{M:SG:ACC}
 ‘The lightning blinded Ivan.’
 b. Ivan byl-Ø oslepl-en-Ø molni-ej.
 Ivan_{M:SG:NOM} AUX_{M:SG} blind_{PPART-M:SG} lightning_{F:SG:INST}
 ‘Ivan was blinded by the lightning.’
 c. Ivan-a. oslepi-l-o molni-ej.
 Ivan_{M:SG:ACC} blind_{PST-[-AGR]} lightning_{F:SG:INST}

⁵ In the course of a questionnaire study carried out in Moscow, 24 informants judged passivized personal versions of adversity impersonals on a scale from 7 (= perfectly grammatical) to 1 (= totally ungrammatical). Sentences with NP_{INST} were inconsistently judged by the informants (three informants judged it even with 7, four with 1), cf. (i) in contrast to the perfectly grammatical (ii).

- (i) ? Nikolaj byl-Ø vzbeščën-Ø Borisov-yi slov-ami.
 Nikolaj_{M:SG:NOM} AUX_{M:SG} enrage_{PPART-M:SG} Boris' words_{N:PL:INST}
 (ii) Nikolaj byl-Ø vzbeščën-Ø ot Borisov-yx slov-Ø.
 Nikolaj_{M:SG:NOM} AUX_{M:SG} enrage_{PPART-M:SG} from Boris' words_{N:PL:GEN}
 ‘Nikolaj was enraged by Boris' words.’

- (10) a. Vozdušnyj potok oprokinu-l-Ø ženščin-u. [Ru]
 air stream_{M:SG:NOM} overturn_{PST-M:SG} woman_{F:SG:ACC}
 ‘The air stream knocked the woman over.’
- b. Ženščin-a byl-a oprokinu-t-a vozdušnym potokom.
 woman_{F:SG:NOM} AUX_{F:SG} overturn_{PPART-F:SG} air stream_{M:SG:INST}
 ‘The woman was knocked over by the air stream.’
- c. Ženščin-u oprokinu-l-o vozdušnym potokom.
 woman_{F:SG:ACC} overturn_{PST-[-AGR]} air stream_{M:SG:INST}

Thus, it is obvious that the reported restriction concerning passivization does not extend to all personal counterparts of adversity impersonals. Descriptively, it concerns verbs with experiencer arguments and it does not produce strict ungrammaticality (for the time being, I have no explanation for the phenomenon). But crucially, the sentences in (9) and (10) reveal that personal adversity sentences *do* involve external arguments. The source for the unacceptability of (8b) for some speakers is apparently a different one. This phenomenon, again, makes a derivational relation between personal and impersonal adversity sentences unlikely.

3 A Non-Defective Alternative for Accusative Impersonal Sentences

3.1 Adversity Impersonals, Covert Subjects, and Control into Adjuncts

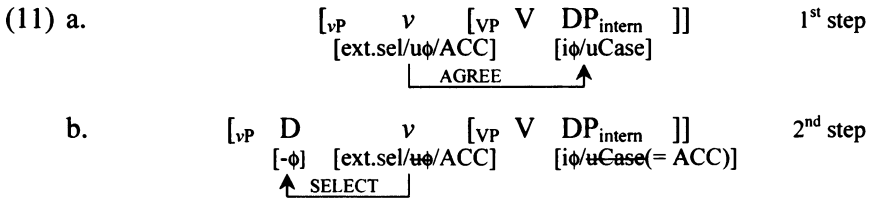
In this section, I will show that none of the categories of AIs is defective (or absent). T being finite has unvalued ϕ -features which, however, in the absence of matching ϕ -features of a goal have to be valued as [default]. A morphological [default] corresponds to the least marked form depending on some sort of feature geometry, e.g. as for person, 1st and 2nd person contain the feature [participant] and 2nd, additionally, the feature [addressee]. 3rd person does not contain any of those. The least obvious case with respect to feature geometry is gender (a discussion of feature geometries is beyond the scope of this paper). In any case, in Russian, the [default] for ϕ -features is 3rd person (= no person, i.e. neither [participant] nor [addressee]), singular (= no number), and neuter (= no gender) (for technical details and extended discussion of morphological default mechanisms for unvalued ϕ -features cf. López 2004).⁶

⁶ This default mechanism does not preclude the option that the default value may correspond to a separate morphological marker. This is the case with Polish and Ukrainian *-no/-to*-forms. Historically, these forms evolved from short forms of the participle, i.e. from the nominal declension in predicative contexts. In these

In the following, I will present a strictly derivational procedure for adversity impersonals in the course of which the uninterpretable ϕ -features of T cannot be valued. Consequently, they are spelled out with a default marking. I assume that the category ν in adversity impersonals (and other AIs) selects for a semantically bleached nominal expression without ϕ -features⁷ and with low referentiality. I will show below that this category, however, does not lack any referentiality. This makes ν a licenser of the unvalued structural Case feature of the internal argument. Consequently, this feature is valued as accusative. So, ν 's ability to value Case is motivated by its selectional properties which is in line with the descriptive generalization known as Burzio's Generalization, i.e. *external select* (satisfied in (11b)) is the prerequisite for [ACC] to be active (11a).

As a consequence, for AIs neither T's nor ν 's defectiveness has to be stipulated (cf. also Tsedryk 2004). With respect to category T, this has the desirable effect for Slavic and most other Indo-European languages that defectiveness does not cut across the finite/non-finite distinction. As soon as T is finite, it contains unvalued ϕ -features. Only a non-finite category T is ϕ -incomplete, never exhibiting agreement morphology.

Besides, this analysis ensures that the derivation can proceed in strictly local steps without derivational dead ends. Finite T is always ϕ -complete and its ϕ -featural makeup is not determined by lexical information, cf. (11) (features of a category are specified below its symbol; features irrelevant for our discussion, e.g. EPP, are omitted).



contexts adjectives did not inflect for case, thus, had no morphological paradigm and became a frozen marker. In this sense the predicative neuter marker was an unmarked form gradually changing into a separate default-form for participles.

⁷ This assumption accounts for the possibility of separate morphological default markers which do not correspond to any [i ϕ] of nominal expressions, cf. the previous footnote.

- c. [TP ... T [_{VP} D *v* [_{VP} V DP_{int}]]] 3rd step
 [_{uφ}/NOM] [-φ] [_{uφ}/ACC] [_{iφ}/ACC]
 └───┬───┘
 NO AGREE
- d. [TP ... T [_{VP} D *v* [_{VP} V DP_{int}]]] (after valuation)
 [_{def-φ}/NOM] [-φ] [_{uφ}/ACC] [_{iφ}/ACC]

Strict locality also accounts for the restrictions concerning the range of the phenomenon. This can be explained by selectional properties of neighboring categories. Some VPs may combine with a *v* licensing semantically bleached Ds others not (similar to unaccusative verbal roots which combine only with a non-selecting *v*, i.e. which do not have a causative counterpart, e.g. *rasti* ‘grow’ in Russian, but not in English).

Non-local accounts involving defective categories which are rather remote from the verbal root category cannot explain, why AIs are lexically restricted. One would expect that at least defective T would not “care” about the lexical properties of verbal roots. (12) shows that this expectation is not borne out.

- (12) *Xleb reza-l-o nož-om. [Ru]
 bread_{M:SG:ACC} cut_{PST-[-AGR]} knife_{M:SG:INST}

Moreover, there is also independent empirical evidence for the null D showing that the presented account is not an ad hoc solution. One such evidence is the ability of semantically bleached null external arguments to control into adjunct clauses (gerundial clauses⁸). This fact was already mentioned by Mel'čuk (1995). He takes examples as in (13) (without any overt argument in the matrix clause) to be evidence for his “force” null lexeme ($\emptyset_{ELEMENTS}$), though I agree with Babby (1994) that the semantic role of the semantically bleached element is not necessarily ‘natural force’. Similar examples can be found in Testelec (2001), cf. (14). Although control into adjunct clauses with AIs is rather unproductive, native speakers at least marginally accept similar sentences, cf. (15).

⁸ Gerundial clauses in Russian require their PRO subject to be obligatorily controlled. In most cases, it is the matrix subjects that controls PRO. Only marginally experiencer datives, oblique agentive NPs, possessor PPs and expletive *pro*-s are allowed as controllers of so-called “detached” gerundial clauses (cf. Rappaport 1984 for a detailed discussion). Crucially, internal theme arguments are never allowed to control the PRO subject of gerundial clauses.

- (13) Iz elektrėrevol'ver-a xlopnu-l-o osvėti-v [Ru]
 from electric.revolver_{M:SG:GEN} crack_{PST-[-AGR]} lighting_{GER}
 vsě vokrug zelėn-ym svet-om.
 all_{ACC} around green light_{M:SG:INST}
 'From the electric revolver (it) cracked, throwing green light on
 everything around.' (Mel'čuk 1995: 185; his translation)
- (14) Mašin-u zanes-l-o na povorot-e PRO razvernū-v
 car_{F:SG:ACC} swerve_{PST-[-AGR]} on turn_{M:SG:PREP} PRO turn_{GER}
 vopreki šosse.
 against highway_{N:SG:DAT}
 'At the turn, the car swerved turning against the direction of traffic.'
 (Testelec 2001: 312)
- (15) ? Lodk-u oprokinu-l-o PRO ne pričini-v vred-a.
 boat_{F:SG:ACC} overturn_{PST-[-AGR]} PRO NEG cause_{GER} harm_{M:SG:GEN}
 'The boat was overturned without being damaged.'

There is also cross-linguistic evidence for semantically bleached null Ds. Bavarian (and other German dialects) also exhibits AIs, cf. (16). The D-element *es* with AIs is obligatory (in contrast to other instances of expletive *es*, cf. below).

- (16) a. Es z'reiβt mi voa Loch'n. [Bavar]
 it_{EXPL} tears_[-AGR] me_{ACC} for (of) laughter
 'I'm ripping with laughter.'
 b. Es hot mi um-g'-wand'l-t.
 it_{EXPL} AUX_[-AGR] me_{ACC} over-turn_{PPART}
 'I fell.'

One of the diagnostics for the obligatory status of German *es* in different contexts provided by Czinglar (2002) is its obligatory presence when it does not occupy the so-called "prefield" which precedes the finite V in V2 sentences (for a discussion of different types of *es* cf. Czinglar 2002). As (17) shows, *es* in its clitic variant is obligatory with AIs in Bavarian.

- (17) a. Mi z'-reiβt *('s) voa Loch'n. [Bavar]
 me_{ACC} tears_[-AGR] it_{EXPL:CL} for (of) laughter
 'I'm ripping with laughter.'

- b. Mi hot *('s) um-g'-wand'l-t.
 me_{ACC} AUX_[-AGR] it_{EXPL:CL} over-turn_{PPART}
 'I fell.'

Similar to Russian, Bavarian AIs allow for control into adjunct clauses, cf. (18). The covert subject of these infinitival adjunct clauses has to be obligatorily controlled by the subject of the matrix clause.

- (18) a. Es hot mi g'-wand'l-t, ohne PRO [Bavar]
 it_{EXPL} AUX_[-AGR] me_{ACC} turn_{PPART} without PRO
 mi um-z'-wand'l-n.
 me_{ACC} over-to-turn_{INF}
 'I staggered/stumbled without falling.'
- b. ? Den Peda hot 's g'-strā-t, ohne PRO
 the Peter_{ACC} AUX_[-AGR] it_{EXPL} scatter_{PPART} without PRO
 eam z' valetz'-n.
 him_{ACC} to hurt_{INF}
 'Peter fell (had an accident) without being hurt.'

Hence, assuming a semantically bleached nominal category selected by *v* does not only provide a solution for the problems discussed in 2.2-2.5, but also accounts for control into adjunct clauses attached to AIs. Besides, the obligatory presence of an expletive element with AIs in German dialects shows that this type of *es* is not just an empty filler for the prefield position to satisfy the V2 requirement in German (dialects).

3.2 Reflexive AIs, -no/-to-constructions in Polish, and Binding

The presented analysis for adversity impersonals can be extended to other instances of AIs in Slavic. As we will see below, those AIs provide additional empirical evidence supporting the analysis advocated in this paper. The first type of AIs discussed in this section are *reflexive AIs* which can be found in several Slavic languages (e.g. Polish, Slovenian and Serbo-Croatian). Rivero (2001) and Rivero & Milojević Sheppard (2001, 2003) observed that reflexive AIs in some Slavic and Romance languages allow for anaphor binding, though there is no overt antecedent, cf. the Polish examples in (19).

- (19) a. Teraz się myśl-i tylko o sobie. [Pol]
 now REFL think_{PRS:[-AGR]} only of self_{LOC}
 ‘Nowadays one thinks only of oneself.’
- b. Swo-ich przyjaciół tak się nie traktuj-e.
 REFL:POSS_{ACC} friends_{M:PL:ACC} only REFL NEG treat_{PRS:[-AGR]}
 ‘One does not treat one’s friends like that.’
- c. Myśl-i się, że swoj-e błędy są
 think_{PRS:[-AGR]} REFL that REFL:POSS_{NOM} errors_{M:PL:NOM} COP_{3:PL}
 bardziej usprawiedliwa-n-e niż inn-ych.
 more justify_{PPART-PL:NOM} than others_{PL:GEN}
 ‘People (often) think that their own mistakes are more justified
 than those of the others.’ (Rivero 2001: 175-176; her translation)

The contrast in (21) from B(urgenland)-Croatian goes even a bit further (similar contrasts hold for Slovenian and Polish). In B-Croatian certain reflexive sentences may occur both with nominative (personals) and accusative internal arguments (impersonals), cf. (20) (with restrictions for internal accusative NPs concerning their semantic class; due to space limits, I cannot discuss these semantic restrictions here). Crucially, only the reflexive AI may felicitously contain a reflexive possessive.

- (20) a. Starj-i se posluš-a-ju. [B-Cro]
 parents_{M:PL:NOM} REFL obey_{PRS:3:PL}
 ‘One obeys parents.’
- b. Starj-e se posluš-a-Ø.
 parents_{M:PL:ACC} REFL obey_{PRS:[-AGR]}
 ‘One obeys (has to obey) parents.’
- (21) a. ^{??(*)} Svoj-i starj-i se posluš-a-ju.
 REFL:POSS_{NOM} parents_{M:PL:NOM} REFL obey_{PRS:3:PL}
- b. Svoj-e starj-e se posluš-a-Ø.
 REFL:POSS_{ACC} parents_{M:PL:ACC} REFL obey_{PRS:[-AGR]}
 ‘One obeys (has to obey) his own parents.’

The data in (19) and (21) can be accounted for by assuming a covert external argument lacking ϕ -features (with reflexive impersonals restricted to a [+animate] interpretation) binding the reflexive possessive of the internal argument (or the anaphor in (19a)).

Similar observations can be made for *-no/-to*-impersonals in Polish which may contain an accusative internal argument. They allow for

binding of reflexive possessives (22a) and for control into gerundial adjunct clauses (22b).

- (22) a. Bi-to_i strażnik-ów_j swo-imi_{i/*j} (ich_{*i/j}) łańcuch-ami.[Pol]
 beat_{TO} guards_{SM:PL:ACC} REFL:POSS their chains_{SM:PL:INST}
 ‘They_i beat the guards_j with their_{i/*j} chains.’
- b. Wracają-c do domu, śpiewa-no piosenk-i.
 return_{GER} to home sing_{NO} songs_{SF:PL:ACC}
 ‘They sang songs returning home.’ (Lavine 2005)

Again, these data can be accounted for by assuming a covert, ϕ -featureless external argument which may serve as a controller/binder. So, there is empirical evidence that the assumption of null external arguments is *not* vacuous. Thus, beside the mentioned theoretical problems with defective T, empirical evidence speaks in favor of an analysis of AIs along the lines of the derivation in (11) where ν and T are ϕ -complete and ν selects a covert category D.

3.3 The Second Participant of Adversity Personals and Impersonals

The discussion in section 2.5 showed that the personal versions of AIs in principle may passivize. This can be hardly accounted for, if the NP_{NOM} is considered to be a complement of the verbal root which then enters into an AGREE-relation with ϕ -complete T: Instead, I take this evidence to suggest that personal adversity sentences are ordinary transitive sentences with the NP_{NOM} being the external argument selected by ν . The unvalued Case feature of the external argument is licensed by T which probes the closest item with interpretable ϕ -features to value its unvalued ϕ -features. These assumptions also avoid the problem of equidistance discussed in section 2.3.

Agreeing transitive adversity sentences often allow for an independent NP_{INST}, cf. (23). I assume that all further restrictions (like inalienability) are not specific for adversity personals (contra Tsedryk 2004). There is always a close relation between agents/causers and instruments being participants of the same event. So, in a situation expressed by a sentence as in (24) a physical relation holds between the agent and the instrument. This relation is closer (inalienable) if the causer is [-animate] as in (23), i.e. incapable of using "other people's things", and if the instrument NP expresses parts or properties construable as those of the causer.

- (23) *Perekladin-a pridavi-l-a reběnk-a svo-im ves-om.* [Ru]
 cross-beam_{F:SG:NOM} crush_{PST-F:SG} child_{M:SG:ACC} his weight_{M:SG:INST}
 ‘The cross-beam crushed the child with his weight.’
- (24) *Ivan reže-t xleb nož-om.*
 Ivan_{M:SG:NOM} cuts_{PRS:3:SG} bread_{M:SG:ACC} knife_{M:SG:INST}
 ‘Ivan is cutting the bread with a knife.’

Further, I claim that the NP_{INST} and the *ot*-PP of AIs are adjuncts which are also less obligatory than the structurally case marked NPs in AIs and their personal counterparts, i.e. the sentence in (1a) without the NP_{INST} may be felicitously uttered out of the blue.

4 Conclusions

The aim of the paper was to show that defectiveness of a category should be restricted to apparent cases. For the category T in Slavic, this means that only non-finite versions are ϕ -incomplete never showing morphology interpretable as agreement. Constructions like AIs which superficially look like counterexamples to this claim still prove to be best analyzed as involving T_{comp}. To assume a defective T for AIs is incompatible with a strictly derivational system with maximally local computational steps.

I have further shown that it is reasonable and empirically adequate to assume that the category ν of AIs selects for an external argument lacking ϕ -features and exhibiting low referentiality. Cross-linguistic evidence shows that this pronoun may control into adjuncts and (with reflexive AIs) bind anaphors and reflexive possessors.

There remain several problems though, especially empirical ones. So, Ukrainian *-no/-to*-impersonals do not fit easily into the analysis presented here. In contrast to Polish, in Ukrainian, *-no/-to* constructions do not allow for anaphoric binding and control into gerund clauses, cf. (25).

- (25) a. *Storož-iv_j bul-o poby-to_i *svoj-imy_{ij}* [Ukr]
 guards_{M:PL:ACC} AUX_[-AGR] beat_{TO} REFL:POSS_{PL:INST}
 (jixn-imy_{*ij}) lancjuh-ami.
 their_{PL:INST} chains_{M:PL:INST}
 ‘Guards_j were beaten_i with their_{*ij} chains.’
- b. **Povernu-všy-s' dodomu, hroš-i bul-o znajde-no.*
 return_{GER-REFL} home money_{M:PL:ACC} AUX_[-AGR] find_{NO}
 ‘Having returned home, the money was found.’ (Lavine 2005)

A unified analysis of all kinds of AIs across languages (reserved for future research) has to be powerful enough to integrate the problematic *-nol-to-*construction in Ukrainian and other problematic data, e.g. from Germanic languages, cf. Svenonius (2002) among others. This paper represents only a first step towards this goal.

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Micro-Variation in Clitic-Doubling in the Balkan Slavic Dialectal Continuum

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The Balkan Slavic clitic-doubling strategies show gradual variation along a vertical north-south axis and a horizontal south-east – south-west axis. As one moves from north to south, the types of objects that lose case inflections increases and the restrictions on the type of objects that can be clitic-doubled are relaxed, while as one moves from south-east to south-west the dependence on clitic-doubling on discourse factors gradually peter out. Thus, in the south-western Macedonian dialects, which actually are the southernmost and westernmost Balkan Slavic dialects, all types of objects are frequently clitic-doubled and discourse factors play no role in clitic-doubling. In the indirect objects of these dialects the doubling-clitics are actually very close to becoming case markers.

1 North-Western South Slavic

While in the westernmost South Slavic language, Slovenian, clitic-doubling or clitic-resuming never occurs, in the Serbo-Croatian/Serbian/Croatian/Bosnian language speaking area there is clitic-doubling and clitic resuming in a few cases when the objects which usually inflect for case appear without case inflections.

1.1 In Standard Serbian or Standard Croatian only direct objects of those proximate and distant deictics *evo* ‘here’ and *eno* ‘there’ that do not inflect for case are clitic-doubled (*cf.* Tomić 2006a). As shown in (1), these objects alternate with objects that inflect for case, which are not clitic-doubled:

- (1) a. Eno Petra. StS/C
 there Petar_{ACC}
 b. Eno ga Petar.
 there him_{ACC.CL} Petar_{NOM}
 'There is Petar.'

1.2 The invariant relativizer *što* 'what/that', which occurs as an alternative to the inflecting relativizer *koji* 'who/which', is regularly clitic-resumed (cf. Tomić 2006a).

1.2.1 In a direct-object position, the co-occurrence of *što* with a pronominal clitic is obligatory if the referent is animate and optional if it is inanimate:

- (2) a. Čov(j)ek što sam *(ga) StS/C
 man that am him_{ACC.CL}
 sreo...
 met._{M.Sg.I-Part}
 'The man that I met...'
 b. Ključ što mu ?(ga) je dala...
 book that 3Sg.M.Dat.Cl him_{ACC.CL} is given_{F.SG.I-PART}
 'The key that she gave to him...'

1.2.2 When *što* 'what' occurs in indirect-object position, its co-occurrence with a pronominal clitic is always obligatory:¹

¹ Both in direct and indirect object position one can use the inflecting relativizer *koji* 'who/which' without clitic-doubling. Thus, (i) is used as an alternative to (2a) and (ii) as an alternative to (3a):

- (i) Čov(j)ek koga sam sreo... StS/C
 man who.M.Sg.Acc am met._{M.Sg.I-Part}
 'The man whom I met...'
 (ii) Čov(j)ek kome sam prodala
 man who.M.Sg.Dat am sold_{F.SG.I-PART}
 auto je došao.
 car is come_{M.SG.I-PART}
 'The man to whom I sold the car has come.'

- (3) a. Čov(j)ek što sam *(mu) StS/C
 man that am him_{DAT.CL}
 prodala auto je došao.
 sold_{F.SG.I-PART} car is come_{M.SG.I-PART}
 'The man that I sold the car to has come.'
- b. Sto(l) što sam *(mu) prom(j)enio
 table what be.1Sg.Cl him_{DAT.CL} changed_{M.SG.I-PART}
 nogu je izčezao.
 leg._{ACC} is desappeared_{M.SG.I-PART}
 'The table that I changed the leg to has disappeared.'

1.3 In the south-eastern Serbian dialects, where the number of case inflections is limited, clitic-doubling does occur, though not equally throughout the territory (*cf.* Tomić 2006a).

1.3.1 In all south-eastern Serbian dialects, pronouns can be and often are clitic-doubled, whether in the Left Periphery or *in situ*:

- (4) a. Mene me je zemnja. ESerb
 me_{ACC} me_{ACC.CL} is land
 pritisnula.
 pressed me_{F.SG.I-PART}
 'I have to ply the soil.' (lit. 'The land has pressed me.')
- b. Vikaše ni nas.
 call_{3SG.IMPERF} us_{ACC.CL} us_{ACC}
 '(S)he was calling us.'

1.3.2 In the western periphery of the south-eastern Serbian dialects indirect lexical objects are clitic-doubled if specific, most probably under the influence of Albanian, where specific indirect objects are, as a rule, clitic-doubled. The following example is from the dialect of Prizren.²

- (5) Ja gi vikam ženama.
 I 3Pl.Cl say.1Sg women.Dat
 'I am saying to the women.'

² The example is from Topolinjska (2001:216), who has taken it from Remetić (1996). Glosses and translation are mine.

1.3.3 In the eastern periphery of the south-eastern Serbian dialects, bordering with western Bulgarian and northern Macedonian dialects, which are often clitic-doubled, nominal direct and indirect lexical objects can also be optionally clitic-doubled.

1.3.3.1 Direct objects are here optionally clitic-doubled when definite:

- (6) Nesăm (ga) videl SESerb
 not+ am him_{ACC.CL} seen_{M.SG./I-PART}
 ovčara(toga).
 shepherd+the_{M.SG.ACC}
 'I haven't seen the shepherd.'

1.3.3.2 Indirect objects, on the other hand, are optionally clitic-doubled when specific. Thus, in (7a), where the object is specific, we can have clitic-doubling, whereas in (7b), where the object is not specific, we cannot:³

- (7) a. Dala săm (mu) cveće SESerb
 given_{F.SG./I-PART} am him_{CL.DAT} flowers
 na šefa/ jedno dete.
 to chief_{ACC} a_{N.SG} child
 'I gave flowers to the chief (namely to X, who happens to be the chief)/to a child (that can be identified).'
- b. Dala săm cveće na šefa/
 given_{F.SG./I-PART} am flowers to chief_{ACC}
 jedno dete.
 a_{N.SG} child
 'I gave flowers to the chief (whoever that may be)/to a child (whose identity is not important).'

1.3.4 The invariant relativizer *što* 'what' in the south-eastern Serbian dialects co-occurs with a resumptive clitic, as it does in Standard Serbian

³ Following Heusinger (2002), I take definiteness to express uniqueness of an object which is not necessarily identified, while specificity expresses referential dependency between items introduced in the discourse.

and Standard Croatian. But, in these Serbian dialects, inflected “wh” direct or indirect objects are also clitic-doubled, if specific:

- (8) % Na kogo (mu) (ju) dade SESerb
 to whom him_{CL.DAT} her_{CL.ACC} give_{2/3SG.AOR}
 knjigu(tu)?
 book+the_{F.ACC}
 ‘To whom (specifically) did you/(s)he give the book?’

1.4 To sum up, in Standard Serbian and Standard Croatian, where there are paradigms with distinct genitive, dative, accusative, vocative, instrumental and locative case forms for all nominal types, clitic-doubling and clitic-resuming of objects is scarce, whereas in the south-eastern Serbian dialects, where the number of case inflections is limited, clitic-doubling occurs more often.

1.4.1 In Standard Serbian and Standard Croatian clitic-doubling occurs when the direct objects of the proximate and distant deictics *evo* ‘here’ and *eno* ‘there’ have direct objects in the nominative case, whereas clitic-resuming occurs with the invariant relativizer *što* ‘what/that’.

1.4.2 In the south-eastern Serbian dialects direct objects can be clitic-doubled if definite, and indirect objects if specific.

1.4.3 We can safely conclude that in the Serbo-Croatian/Serbian/Croatian/Bosnian language speaking area, clitic-doubling and clitic resuming is contingent on loss of case inflections.

2 Bulgarian

In Bulgarian, where the nouns do not show any case distinctions, clitic-doubling occurs with all types of objects, but it depends not only on loss of case inflections but also on discourse factors, i.e. on topicalization whether *in situ* or in the Left Periphery.⁴ (cf. Tomić 2006a; 2006b).

⁴ Topic, a discourse related notion, is characterized informally as “old information” and juxtaposed to focus, informally characterized as “new information” (cf. Culicover and Rochemont 1983, Rochemont 1986, Rochemont

2.1 In Standard Bulgarian and the easternmost Bulgarian dialects, on which the standard is based, clitic-doubling of both direct and indirect objects is strictly dependent on discourse factors – only topicalized (direct or indirect) objects in the Left Periphery are clitic-doubled.⁵

2.1.1 Definite Standard Bulgarian topicalized objects are regularly clitic-doubled:⁶

- (9) a. Ivan Marija go vidja. Bulg
 Ivan Marija him_{CL.ACC} see_{3SG.AOR}
 ‘Speaking of Ivan, Marija saw him.’
- b. Pismata Marija vinagi gi
 letters+the_{PL} Marija always them_{CL.ACC}
 prašta na vreme.
 send_{3SG} on time
 ‘As for the letters, Marija always mails them on time.’

2.1.2 Indefinite objects are, however, clitic doubled only if they are specific⁷ and occur in heavy sentences. Thus, (10a₁) and (10b₁) are not acceptable, whether with or without a clitic, while the heavy sentences (10a₂) and (10b₂), with specified clitic-doubled objects, are well-formed:

- (10) a₁ *Edna studentka (ja) vidjax. Bulg
 a_{F.SG} student_F her_{CL.ACC} see_{1SG.AOR}
- a₂ Edna studentka ja vidjax
 a_{F.SG} student_F her_{CL.ACC} see_{1SG.AOR}

and Culicover 1990). The occurrence of the topic in the Left Periphery might be referred to as “topicalization”.

⁵ “Clitic doubling” here covers both reduplication or doubling of objects to the right of the verb, as well as those in the Left Periphery, i.e. covers not only what is uncontroversially understood under the term, but also instances which have in some analyses (e.g. Arnaudova 2003) been qualified as “clitic-left dislocation”.

⁶ The examples are from Arnaudova (2003:163).

⁷ Specificity is distinct from topicalization. As pointed out in footnote 3, following Heusinger (2002), I take specificity to express referential dependency between items introduced in the discourse.

	da	vliza	vāv	stajata.	
	to _{SUBJ.}	enter _{3SG}	in	room+the _{F.SG}	
	'As to a student, I saw her entering the room.'				
b ₁	*Na	edna	moja	prijatelka,	brat
	to	a _{F.SG}	my _{F.SG}	friend _F	brother
	mi	(i)		pomogna.	
	me _{CL.DAT}	her _{CL.DAT}		help _{3SG.AOR}	
b ₂	Na	edna	moja	prijatelka,	brat
	to	a _{F.SG}	my _{F.SG}	friend _F	brother
	mí	í		pomogna	da
	me _{CL.DAT}	her _{CL.DAT}		help _{3SG.AOR}	to _{SUBJ}
	si	kupi		apartament.	
	self _{CL.DAT.REFL}	buy _{3SG.PERF.PRES}		apartment	
	'As for a friend of mine, my brother helped her to buy an apartment for herself.'				

2.1.3 Bare direct or indirect objects are, as a rule, not clitic-doubled.⁸

2.2 "Wh"-words can optionally be clitic-doubled if specific.⁹

2.3 As one moves south-westwards, the role of definiteness and specificity in clitic-doubling increases. In the west-central and south-western Bulgarian dialects *in situ* objects can also be clitic-doubled.¹⁰

(11) a.	Dadox	mu	go	az	Bulg
	give _{1SG.AOR}	him _{CL.DAT}	it _{CL.ACC}	I	
	učebnika	na	Stojan.		
	textbook+the _{M.SG}	to	Stojan		

⁸ In generic clauses bare direct objects can be clitic doubled.

⁹ The invariant relativizer *deto* is often followed by a resumptive clitic.

(i) Čovekāt deto mu dadoxme
 man+the_{M.SG} that him_{CL.DAT} give_{1PL.AOR}
 pismoto...
 letter+the.N.Sg
 'The man that we gave the letter to...'

¹⁰ The examples are from Arnaudova (2003:176). Arnaudova (2003: section 8) refers to such examples as "clitic right-dislocations".

- ‘I did give the book to Stojan.’
- b. Vidjaja go čoveka/
 see_{3PL.AOR} him/it_{CL.ACC} man+the it_{M.SG}
 učebnika/ edin učebnik.
 textbook+the_{M.SG} a_{M.SG} texbook
 ‘They did see the man/the textbook/a textbook.’
- c. Ivan (gi) ostavi tezi pari.
 Ivan them_{CL.ACC} leave_{3SG.AOR} these money
 ‘As for that money, Ivan left it.’

2.4 To sum up, in Bulgarian, where lexical case inflections are non-existent, clitic-doubling occurs in all types of objects, but it is also dependent on discourse factors.

2.4.1 In Standard Bulgarian and the easternmost Bulgarian dialects only topicalized objects in the Left Periphery are clitic-doubled – as a rule if they are definite, and only when specific and occur in heavy sentences if they are indefinite.

2.4.2 In the west-central and south-western Bulgarian dialects *in situ* objects can also be clitic-doubled.

2.4.3 Thus, in Bulgarian, clitic-doubling and clitic resuming is contingent both on loss of case inflections and discourse factors.

3 Macedonian

When one moves south-westwards in the South Slavic speaking area, the situation with case inflections does not change radically, but the role of discourse factors in clitic-doubling gradually disappears. In the easternmost Macedonian dialects, clitic-doubling is analogous to that in the adjacent western Bulgarian dialects. In the central and western Macedonian dialects, however, all definite direct objects and all specific indirect objects are clitic-doubled (*cf.* Tomić 2006a).

3.1 In direct-object clitic-doubling in the central and western Macedonian dialects, and in Standard Macedonian, which is based on the west-central dialects, definiteness plays central role.

3.1.1 All definite direct objects are clitic-doubled, whether human or non-human, animate or inanimate, concrete or abstract:

- (12) Jana go vide Petko/ Mac
 Jana him_{CL.ACC} see_{3SG.PERF.PAST} Petko
 volkot/ pismoto/ oblakot.
 wolf+the_{M.SG} letter+the_{N.SG} cloud+the_{M.SG}
 ‘Jana saw Petko/the wolf/the letter/the cloud.’

3.1.2 If, following van Heusinger (2002), we take specificity to express referential dependency between items introduced in the discourse, specificity would play no role when the direct object is definite.

3.1.2.1 The direct object in (13) is invariably clitic-doubled though it may receive a specific or a non-specific interpretation:

- (13) Jana *(go) bara direktorot. Mac
 Jana him_{CL.ACC} look-for_{3SG} manager+the_{M.SG}
 1. ‘Jana is looking for the manager (namely, for X, who happens to be the manager).’
 2. ‘Jana is looking for the manager (whoever it may be).’

3.1.2.2 Indefinite direct objects are, as a rule, not clitic-doubled, irrespective of whether they receive a specific or a non-specific interpretation:

- (14) (*Go) bara eden glumec. Mac
 him_{CL.ACC} look-for_{3SG} a_{M.SG} actor
 1. ‘(S)he is looking for an actor ((s)he happened to meet the other day).’
 2. ‘(S)he is looking for an actor (whoever that may be).’

3.1.2.3 With partitive indefinites, clitic-doubling of direct objects does involve specificity, however. As illustrated in (15), when the object is specific, it is clitic-doubled, while when it is non-specific it is not clitic-doubled:

- (15) a. Ja omaži edna od ќerkite. Mac
 her_{CL.ACC} marry_{3SG.PERF.PAST} a_{F.SG} of daughters+the_{P1}
 ‘For one of his/her daughters (namely X) (s)he found a husband.’ (lit. ‘One of his/her daughters (s)he married.’)

- b. **Omaži** **edna** **od** **kerkite.**
 marry_{3SG.PERF.PAST} a_{F.SG} of daughters+the_{PI}
 ‘For one of his/her daughters (it does not matter which one) (s)he found a husband.’ (lit. ‘One of his/her daughters (it does not matter which one) (s)he married.’)

But partitives are not true indefinites. As pointed out by von Heusinger (2002), partitives are complex expressions that involve an indefinite choice from a definite set.¹¹

3.1.2.4 Specific indefinite direct objects in heavy (complex) clauses can also be clitic-doubled:

- (16) a. (Go) **nateraa** **eden** **Mac**
 him_{CL.ACC} force_{3SG.PERF.PAST} a_{M.SG}
 čovek da ja skrši.
 man to_{SUBJ} her_{CL.ACC} break_{3SG.PERF.PAST}
 ‘(I saw how) they forced a (specific) man to break it.’
- b. (Ja) **videle** **edna** **moja**
 her_{CL.ACC} seen_{PL./-PART} a_{F.SG} my_{F.SG}
 drugarka kako sleguva od brodot.
 friend_F how descend_{3SG} from ship+the_{M.SG}
 ‘They reportedly saw a (specific) friend of mine descend the ship.’

3.1.2.5 On the basis of the occurrence of the clitic in an example such as the examples (16a-b), Berent (1980) concludes that it is not definiteness, but rather specificity that is crucial for the clitic-doubling of Macedonian direct objects, and Franks and King (1995: 252-253), referring to Berent’s example, arrive at the same conclusion. Nevertheless, as shown by the unacceptability of the clitic in (13), specificity *per se* does not open the door for direct-object clitic-doubling. One might speculate that the

¹¹ On Anagnostopoulou and Gianakidou’s (1995) scale of referentiality, partitives are more referential than referential indefinites:

- (i) referential indefinites > partitives > weak definites > novel definites > proper names and definite descriptions > definites > demonstratives > anaphoric pronouns.

subjunctive complement in sentences such as (16a) and the modifying clause in sentences such as (16b) are responsible for a type of specificity different from that illustrated in (13),¹² but even then clitic-doubling is not obligatory, as it is in the case of definite direct objects. Moreover, as shown by the unacceptability of the clitic in (17), where the nouns are non-human, not only specificity, but also humanness might be involved:¹³

- (17) a. *Ja videle edna krava Mac
 her_{CL.ACC} seen_{PL./I-PART} a_{F.SG} cow
 kako vleguva vo kućata.
 how enter_{3SG} in house+the_{F.SG}
 ‘They reportedly saw a cow entering the house.’
- b. *Ja videle edna moja
 her_{CL.ACC} seen_{PL./I-PART} a_{F.SG} my_{F.SG}
 kniga kako paĝa od prozorecot.
 book how fall_{3SG} from window+the_{M.SG}
 ‘They reportedly saw a book of mine fall from the window.’

3.1.2.6 Bare indefinite direct objects are never clitic-doubled. Thus, the clitics in (18) are not acceptable even when topicalized¹⁴ or heavy, whatever the type of the noun.

- (18) a. Jana *go vide Mac
 Jana him_{CL.ACC} see_{3SG.PERF.PAST}
 dete/ volk/ voz/ oblak.
 child wolf train cloud
 ‘Jana saw a child/wolf/train/cloud.’
- b. Kuće TREVA ne *ja jade.
 dog grass not her_{CL.ACC} eat_{3SG}
 ‘As for dogs, they do not eat grass.’ (lit. ‘As for a dog, it does not eat grass.’)
- c. *Go čuv dete kako plače.
 him_{CL.ACC} hear_{3SG.PERF.PAST} child how cry_{3SG}
 ‘I heard a child crying.’

¹² Agnastopoulou and Gianakidou (1995) point out that, cross-linguistically, it is not always specificity, narrowly defined, that affects clitic-doubling.

¹³ Note that this sentence is also unacceptable for a non-specific reading.

¹⁴ Topicalized bare indefinites are generic.

3.2 Indirect-object clitic-doubling is in Macedonian always contingent on specificity.

3.2.1 Nouns with indefinite articles are not always clitic-doubled; they are clitic-doubled only when specific:

- (19) a. Mu go dade Mac
 him_{CL.DAT} it_{CL.ACC} give_{3SG.PAST}
 pismoto na edno dete.
 letter+the_{N.SG} to a_{N.SG} child
 ‘(S)he gave the letter to a child (that I know).’
- b. Go dade pismoto
 it_{CL.ACC} give_{3SG.PAST} letter+ the_{N.SG}
 na edno dete.
 to a_{N.SG} child
 ‘(S)he gave the letter to a child (whose identity is not important).’

3.2.2 The contrast is more evident in the case of the determiner *nekoj* ‘some’, which is morphologically marked for non-specificity by the morpheme *-si*. When *-si* is present, the clitic cannot be used:

- (20) a. (Mu) go dala Mac
 him_{CL.DAT} it_{CL.ACC} given_{F.SG./-PAT}
 pismoto na nekoe dete.
 letter+ the_{N.SG} to some_{N.SG} child
 ‘Jana has reportedly given the letter to some child.’
- b. (*Mu) go dala pismoto
 him_{CL.DAT} it_{CL.ACC} given_{F.SG./-PAT} letter+ the_{N.SG}
 na nekoe-si dete.
 to some_{N.SG.NON-SPEC} child
 ‘She has reportedly given the letter to some child (whoever that may be).’

3.2.3 In some cases, the specificity effect disappears and the clitic can optionally be left out even when the definite indirect object is obviously

- (23) a. Studentkata (koja)što majka Mac
 student+ the_{F.SG} who_{F.SG}+what mother
 ti ja videla...
 you_{SG.DAT.CL} her_{ACC.CL} seen_{F.SG./-PART}
 ‘The student whom your mother saw...’
- b. Čovekot (kogo)što go sretnavme...
 man+the_{F.SG} who_{M.SG.ACC}+what him_{CL.ACC} meet_{1PL.PERF.PAST}
 ‘The man whom we met....’

3.4 As one moves south-westwards in the Macedonian speaking territory, the specificity effect disappears and the doubling clitic can be left out, even when the indirect object is obviously specific. Bare indefinite indirect objects, which can never be specific, can in South-western Macedonia also be clitic-doubled, whether they occur post-verbally or (in focus or topic positions) in the Left Periphery:¹⁶

- (24) a. Jana (mu) go dade Mac
 Jana him_{CL.DAT} it_{CL.ACC} give_{3SG.PERF.PAST}
 pismoto na dete.
 letter+the_{N.SG} to child
 ‘Jana gave the letter to a (mere) child.’
- b. NA DETE (mu) go dade pismoto
 to child him_{CL.DAT} it_{CL.ACC} give_{3SG.PERF.PAST} letter+the_{N.SG}
 ‘It is to a (mere) child that (s)he gave the letter.’
- c. Na kuće, TREVA ne (mu)
 to dog grass not him_{CL.DAT}
 se dava.
 self_{CL.ACC.REFL} give_{3SG}
 ‘As for dogs, one should not give them grass.’

3.5 In Macedonian, where lexical case inflections are scarce (though masculine proper names and nouns denoting kinship terms can have

¹⁶ The occurrence of the clitic with bare indirect objects varies from dialect to dialect and from speaker to speaker.

accusative case markers)¹⁷ and discourse factors do not play any role in clitic-doubling, definite direct objects and specific indirect objects are in many dialects regularly clitic-doubled (*cf.* Tomić 2006a).

3.5.1 In Standard Macedonian and in the central and western Macedonian dialects, definiteness plays central role in direct object clitic-doubling, while indirect object clitic-doubling is contingent on specificity.

3.5.2 In the south-western Macedonian dialects, bare indefinite indirect objects, which can never be specific, can also be clitic-doubled. The disappearance of the specificity effect indicates that in these dialects the dative clitic is close to becoming a mere case marker.

3.5.3 In Macedonian in general, clitic-doubling is more frequent than in any other South Slavic language. In the case of indirect objects, in some cases the doubling clitics have become case markers.

4 Conclusions

We can conclude that the Balkan Slavic clitic-doubling strategies show gradual variation along a vertical north-south axis and a horizontal south-east – south-west axis.

4.1 In Standard Serbian and Standard Croatian, where there are paradigms with distinct genitive, dative, accusative, vocative, instrumental and locative case forms for all nominal types, clitic-doubling and clitic-resuming of objects is scarce, whereas in the south-eastern Serbian dialects – Macedonian and Bulgarian, where the number of case inflections is limited or non-existent clitic-doubling occurs more often. These facts clearly show that the occurrence of clitic-doubling is directly proportionate to loss of case inflections. Since Serbian is to the north of Macedonian and to the north-west of Bulgarian, we can conclude that, along a vertical north-south axis, clitic-doubling strategies of Balkan Slavic show a gradual increase dependent on loss of case inflections.

¹⁷ In this respect, Macedonian differs from Bulgarian where lexical case inflections do not occur.

4.2 In Bulgarian, discourse factors are instrumental in clitic-doubling. As one moves from east to west, however, the conditions for clitic-doubling are relaxed: whereas in the easternmost Bulgarian dialects only topicalized or rather non-focused constituents are clitic-doubled, in the westernmost Bulgarian dialects we have an increasing number of doubling of *in-situ* objects. The number of clitic-doubled objects gradually increases westwards, especially in Macedonian, where discourse factors play no role in clitic-doubling. Consequently, along a horizontal south-east – south-west axis clitic-doubling strategies of Balkan Slavic show a gradual increase dependent on decrease and disappearance of discourse factors.

4.3 In South-Western Macedonia, where the two axes along which clitic-doubling variation in Balkan Slavic varies intersect, the specificity effect disappears and the doubling clitic can be left out, even when the indirect object is obviously specific. Bare indefinite, indirect objects, which can never be specific, can here also be clitic-doubled. Thus, at least in the case of indirect objects, the doubling clitics get very close to becoming mere case markers.

4.4 In general, as one moves from north to south in Balkan Slavic, the types of objects that lose case inflections increases and the restrictions on the type of objects that can be clitic-doubled are relaxed, while as one moves from south-east to south-west the dependence on clitic-doubling on discourse factors gradually peter out.

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Possessives within and beyond NPs*

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This paper is going to focus on the multi-faceted nature of possessive satellites¹ in Russian nominal phrases, in particular, on the distinction between the so-called modificational possessives (MPs) and referential possessives (RPs), exemplified in (1) and (2) respectively for English and Russian (see Quirk et al. 1985, Barker 1991, Munn 1995, Taylor 1996, Trugman 2004b).

- (1) a. this brand-new women's clothing (MPs)
Interpretation: this brand-new clothing designed for women
b. Ètot mamen'kin synok mne dejstvuet na nervy!
This mummy_{POSS} sonny me_{DAT} acts on nerves
'This mama's boy gets on my nerves.'
- (2) a. this woman's brand-new clothing (RPs)
b. Mamin novyj načal'nik mne dejstvuet na nervy!
mother_{POSS} new boss me_{DAT} acts on nerves
'Mother's new boss gets on my nerves.'

* I want to thank the audience at the FASL 15 conference and the two anonymous reviewers for helpful comments and suggestions. Needless to say, all errors remain my own responsibility.

¹ In this paper I discuss only non-eventive noun heads hosting possessive satellites (or possessives, for short), with the latter standing for all kinds of morphologically possessive elements of the noun phrase, i.e. both possessive arguments of relational nouns (*mamin brat* 'mother's brother') and possessive modifiers of plain nouns (*mamino plat'je* 'mother's dress'). Abbreviations used for various possessive satellites are as follows: RPs—referential possessives; MPs—modificational possessives, which are further subdivided into IMPs—idiomatic MPs and nIMPs—non-idiomatic MPs.

The underlined phrases in (1) are MPs, which function as restrictive modifiers of the head noun specifying the class/genus/category/type to which the noun belongs rather than a particular individual possessing it. The possessive satellites underlined in (2) denote just the opposite—the individual standing in a semantic relation of possession/ control with the head noun.

In this paper I will argue that the distinct semantic properties of modificational and referential possessives stem from their distinct syntactic structures, specifically their NP- versus DP-status, which in turn accounts for their distinct surface position within the nominal projection. Since the lack of overt determiners in Russian and particular morphosyntactic properties of possessives do not allow us to apply standard constituency tests for NP/DP distinction, we will have to rely on more subtle tests in order to establish this contrast. Before addressing the main issue, I will first provide some general background on morphosyntax of Russian possessives in section 1. In section 2, I will focus on MPs in Russian and argue that we should distinguish between two sub-types—MPs occurring in lexical idioms and those occurring in syntactic collocations. Then, in section 3, I will discuss RPs in comparison to MPs. Some similarities between RPs and MPs mentioned in section 3.2 will shed light on the merging loci and movement abilities of various possessives in Russian. Section 4 summarizes the findings of this paper.

1 Morphosyntax of Russian Possessives

As is well known, Russian differs from English and some other languages in that it prohibits phrasal possessives of the kind *a very tall man's hat*. Russian possessive formation is limited to pronouns, proper names, and kinship terms of specific declensional classes, and exhibits a one-word restriction (see Kopčevskaja-Tamm & Šmeljev 1994, Babyonyshev 1997, ao). Russian employs two possessive suffixes: *-in/-yn* (for nouns of 1st declension) and *-ov/-ev* (for nouns of 2nd declension). A possessive suffix attaches to the nominal base and is followed by an inflectional portmanteaux suffix marking gender, number, and case agreement with the head noun, e.g. *mam-in-a sumk-a*, mother_{POSS.FEM.SG.NOM} bag_{FEM.SG.NOM}, 'mother's bag'. Russian possessives exhibit mixed categorial properties, similarly to other hybrid categories, such as participles or deadjectival

nouns.² Specifically, commonly assumed intrinsic referentiality of possessives and their ability to serve as antecedents of pronouns set them apart from adjectives, yet their obligatory ϕ -feature agreement with the head noun makes them look adjectival (see references cited above for details). In this paper I will show that such nominal properties are characteristic of referential possessives exclusively, while modificational possessives exhibit less ‘nounness’ and pair instead with the class of possessive adjectives.

2 Modificational Possessives

Modificational possessives, as in (1), have been given a number of analyses in literature. For instance, Barker (1991) analyzes English type-denoting possessives as lexical compounds. Taylor (1996) proposes a continuum of possessive relations with RPs and MPs occupying its opposite ends. Some MPs are treated as pure possessive compounds, while others constitute mixed cases. Similarly to Taylor, Munn (1995) sets apart MPs within idioms from MPs in non-idiomatic expressions, prompted by the latter’s ability to project to phrases (3) and have a regular, non-compound stress (4).³

- (3) a. a tall man’s coat
 b. a very tall man’s coat
- (4) a. a [**blackbird**]’s feather (a feather from a blackbird)
 b. a black [**bird**]’s feather (a black feather from a bird)

2.1 Modificational Possessives in Russian and Their Sub-Types

Russian MPs also fall into two similar sub-classes: idiomatic MPs (IMPs for short) and non-idiomatic MPs (nIMPs).⁴ The two types are exemplified in (5) & (6) respectively:

² Russian participles are adjectival in form and function, though they may bear such verbal features as tense, aspect and voice and retain thematic arguments of the underlying verbal stem. Another mixed category, deadjectival converted nouns like *bol’noj* ‘a male patient’, is extensively discussed in Spencer 2002.

³ The examples in (3) and (4) are borrowed from Munn (ibid, (7) and (8)), the stressed element is in boldface.

⁴ Most Russian idiomatic MPs are derived from proper names (cf. Taylor’s onomastic possessives (1996: 296)) and include (i) borrowings from Greek

- (5) a. čertova djužina
 ‘baker’s dozen’
 b. adamovo jabloko
 ‘Adam’s apple’
- (6) a. babuškiny sredstva
 granny_{POSS} means
 ‘folk remedies’
 b. mamen’kin synok
 mummy_{POSS} son
 ‘a mama’s boy’

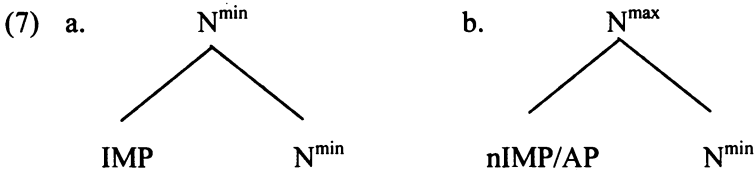
In this paper I will assume that idioms are derived in the lexicon⁵ and are stored there as separate items or lexemes (cf. Borer 2005b, Chapter 20). A modificational possessive forms one lexeme with the nominal head N, and such a lexeme enters the syntactic structure as a complex head N^{min}. Syntactic collocations, on the other hand, are the product of syntactic derivation. Non-idiomatic MPs are taken to merge with the nominal head

mythology or the Pentateuch, such as *noev kovčeg* ‘Noah’s ark’, *axillesova pjata* ‘Achilles’ heel’, *sizifov trud* ‘Sisyphean labor’, *damoklov meč* ‘sword of Damocles’; (ii) medical and scientific terms *adamovo jabloko* ‘Adam’s apple’, *torricelieva pustota* ‘Torricelli’s vacuum’, *evklidova geometrija* ‘geometry of Euclid’; (iii) plant names *anjutiny glazki* ‘pansies’, and (iv) some other random terms *čertova djužina* ‘a baker’s dozen’. Even though proper names, i.e. referential constants (Longobardi 1999), underlie such possessives, they do not function as fully referential and discourse bound (i.e. they are not topical nor do they presuppose the speaker’s familiarity with the ‘possessor’ (cf. Taylor, *ibid*: 295)). Such possessives are semantically very close to genitive possessors functioning as modifiers rather than referential anchors. Trugman (2004a/b) calls such genitive modifiers *Type Genitives* and takes those formed from proper names to denote unique types. The similarity between onomastic possessives (i) and Type Genitives (ii) is supported by their ability to co-occur with RPs:

- (i) [Petina [*axillesova pjata*]]— strast’ k kartočnym igram.
 ‘Peter’s Achilles_{POSS} heel (is) (his) passion for card games.’
- (ii) [[*ambicii Napoleona*]] moego novogo načal’nika
 ambitions Napoleon_{GEN} my_{GEN} new_{GEN} boss_{GEN}
 ‘my new boss’s Napoleonic ambitions’

⁵ Borschev & Partee (1999, fn. 10) suggest that a modificational possessive in English is a ‘lexical’ genitive construction with the possessive marker -’s historically related to the -s morpheme occurring in German compound nouns.

as the latter's (immediate) specifier, similarly to the merger of relational adjectives. Thus, nIMPs are analyzed as a sub-class of Russian relational adjectives,⁶ akin to relational-possessive adjectives.⁷ This analysis is justified by the following parallelism: both Russian relational adjectives and MPs are formed exclusively from non-branching noun heads and are non-projecting (i.e. they don't take any complements or specifiers).⁸ In Trugman (2005) I adopted the Bare Phrase Structure framework of Chomsky (1995) and analyzed non-branching and non-projecting relational adjectives as simultaneously minimal ($X^0=X^{\min}$) and maximal ($XP=X^{\max}$) specifiers of N. Here I propose to extend this analysis to nIMPs. Idiom formation in the lexicon can be schematically shown as in (7a), and syntactically formed collocations with MP/AP modifiers are represented in (7b).=



⁶ The term *relational* has been commonly used in traditional European grammars in the sense similar to the term *pseudo-adjectives* in generative semantics. These adjectives have also been called *denominal* (Borschev & Partee 1999: 50), or *nominal* (Levi 1976) to emphasize their morphological origin. These adjectives encompass three lowest semantic categories on the universal hierarchy of adjectival modifiers, those of purpose/function (or type), material and origin/nationality (cf. Pereltsvaig, to appear).

⁷ Relational-possessive adjectives are formed with the possessive suffixes *-ij/-in* (+adjectival declension) from nouns denoting animals and persons (Townsend 1975: 226): e.g. *sobačij* 'dog_{ADJ}', *razbojničij* 'robber_{ADJ}', *kurinyj* 'chicken_{ADJ}'.

⁸ Relational adjectives (on a par with MPs) exhibit some properties that further strengthen their present analysis as $X^{\min}=X^{\max}$ specifiers, such as inability to derive comparative and superlative forms (**bolee/ naibolee derevjannyj* 'more/most wooden'), adverbs (**derevjanno* 'woodenly'), to take degree words as modifiers (**očen' derevjannyj* 'very wooden'), to form abstract nouns (**derevjannost'* 'woodenness' (is grammatical only as a colloquial metaphor meaning 'stupidity')), or antonymous pairs (*derevjannyj—*nederevjannyj* 'wooden'—*'non-wooden') (see Townsend 1975 for more discussion).

In the following section, I will demonstrate that IMPs behave differently from both nIMPs and relational-possessive AP-modifiers of N. The similarity of behavior between nIMPs and relational-possessive adjectives will validate the analysis of syntactic MPs as plain restrictive modifiers of the head noun.

2.2 Lexical Compounds versus Syntactic Ones

(i) First, Russian MP-hosting lexical idioms differ in their semantics from MP-hosting syntactic collocations. A lexical idiom has a meaning which is not compositionally determined by the meaning of its parts. Moreover, the extension of the idiom does not equal nor is derivable from the extension of either member of the pair. For instance, the idiom *anjutiny glazki* ‘pansies’ does not refer either to eyes or to a particular type of eyes, those that Anjuta has. The extension of the idiom is a kind of flower, pansies. It follows then that such idioms must be listed in the lexicon together with their interpretation on a par with other lexical items. Hence it is highly plausible that they enter the syntactic structure as N^{min} , as suggested here. Syntactic collocations, on the other hand, have heads which are common nouns whose extension stays intact and whose distribution does not differ from their regular uses. *Babuškiny sredstva* (lit.: granny’s methods, ‘folk remedies’) refer to remedies of a particular type, those used by grannies. Since the interpretation of syntactic compounds is compositional, they can be considered the product of syntactic derivation.

(ii) Munn (1995) observes the following difference between English idiomatic and non-idiomatic MPs. Idiomatic MPs do not show agreement with their heads—an MP in (8a) *men’s* is plural, while the head noun *room* is singular. In this they pair with synthetic compounds, (8b). The non-idiomatic MP in (8c), on the other hand, exhibits number agreement. The lack of number agreement in (8a) is taken to indicate a lexical compound (examples in (8) are adopted from Munn, op. cit.)

- (8) a. This is a men’s room. (= bathroom, idiomatic expression)
 b. footbaths vs. *feetbaths
 c. This is a man’s room. (= male-ish room, non-idiomatic)

A parallel test cannot be duplicated in Russian due to the lack of possessives formed from plural nouns (see Kopčevskaja-Tamm & Šmeljev 1994 and references cited there). As a result of this restriction all

possessives exhibit obligatory agreement with the head noun they modify. Yet, we may note that Russian MP-hosting idioms tend to have fixed ϕ -feature specification: their number/gender features are generally lexicalized and frozen. They seem to resist pluralization if they are originally singular: **damoklovy meči* 'swords of Damocles'; **axillesovy pjaty* 'Achilles' heels'. Interestingly, a plural idiom *sykiny deti*, lit.: *bitch*_{POSS} children, 'sons-of-a-bitch', does not have a singular form **sykin rebenok* 'child-of-a-bitch', which also argues for its lexicalized number specification.⁹

Syntactic collocations, as in (9), on the other hand, have full ϕ -feature and number paradigms, similarly to relational-possessive adjectives, as in (10):

(9) *kakoe/-ie-to babuškino/-y sredstvo/-a ot xrapa*
*some*_{NEUT.SG / PL} *granny*_{POSS.NEUT.SG / PL} *means*_{NEUT.SG / PL} *from snoring*
 'some folk remedy/remedies for snoring'

(10) *korov'ja/ -i lepeška/ -i*
*cow*_{ADJ.FEM.SG / PL} *flat-cake*_{FEM.SG / PL}
 'cow's pie(s)'

(iii) If idioms enter the derivation as (lexically derived) heads/lexemes, their possessive modifiers are predicted to be inseparable from the head noun. Any element intervening between the head noun and the possessive is expected to trigger ungrammaticality, as confirmed by the data in (11):

(11) **anjutiny golubye glazki* vs. *golubye anjutiny glazki*
*Anjuta*_{POSS} *blue eyes* *blue Anjuta*_{POSS} *eyes*
 'blue pansies'

⁹ Although my search of several English corpora and Tübingen Russian corpora did not yield a single instance of plural idioms except one instance of 'swords of Damocles' in a song by the rapper Wyclef Jean; Google search resulted in multiple instances of plural idioms in both languages, including even pluralization of a mass noun, as in *sizifovy trudy* 'Sisyphean labors'. It should be mentioned, however, that such idioms are most commonly used as eye-catching titles of books, songs, movies, and articles, while standard singular forms seem to prevail in the text. This interesting contrast between the two language registers requires more investigation and will be left for future research.

MPs in syntactic collocations are also expected to be head-adjacent and reject intervening material. Yet, this adjacency can be violated since a syntactic collocation is more loosely knit than a lexical idiom. Though non-adjacency is very rare,¹⁰ existing non-adjacent structures are not perceived as ungrammatical, in contrast to (11). The violations they create are reminiscent of the violations of adjectival hierarchy discussed in Pereltsvaig (to appear). Here again, MPs exhibit parallel behavior with relational-possessive adjectives. Specifically, the MP *babuškinyx i deduškinyx* in (12a) is separated from the head noun *odežda* ‘clothes’ by an adjective *dopotopnyj* ‘old-fashioned’, which belongs to the semantic category AGE. In (12b), a relational-possessive adjective *korov’ij* precedes an adjective *suxoj* ‘dry’, of the semantic category WETNESS. Both categories, AGE and WETNESS, are not very distant in the adjectival hierarchy from the TYPING attribute, to which MPs are assigned in this analysis.

- (12) a. v kontraste babuškinyx i deduškinyx
 in contrast to grandmotherly and grandfatherly
 dopotopnyx odežd¹¹
 old-fashioned clothes
- b. trava ... ukrasila’ poseredine korov’ej suxoj lepeškoj
 grass ... got-embellished in the middle (by a) cow’s dry pie

(iv) A fourth test pertains to the distinct ability of idioms and syntactic collocations to give rise to generic terms discussed in Trugman (2004b, 2005). Generic terms are noun phrases with a kind interpretation that are used as scientific terms, names, or labels and exhibit an inverted word order, i.e. the head noun is followed by the modifier rather than is preceded by it. Trugman (ibid.) argues that in such terms the head noun

¹⁰ Quirk et al. (1985), Munn (1995) and others notice that non-idiomatic MPs in English also tend to be head-adjacent (e.g. *an old man’s bicycle* (=an old bicycle made for men); *a bright children’s room*). However, Munn (ibid, (36)) mentions that such possessives may sometimes allow for intervening adjectives, as in *a man’s fancy shirt*.

¹¹ In proper context, the possessive satellites in (12a) can also be interpreted referentially, i.e. ‘my grandma’s and grandpa’s old-fashioned clothes’. Yet in the original sentence from the Tübingen Russian corpora, they function as modificational possessives non-referring to any grandma or grandpa.

moves to D across a restrictive modifier with a classifying function (cf. Rutkowski and Progovac 2004 and references cited there). Relational-possessive adjectives (13a) as well as non-idiomatic MPs (13b) were shown to give rise to such terms:

- (13) a. mjaso *teljač'e*
 meat calf_{ADJ}
 'veal'
- b. syr *babuškin*
 cheese granny_{POSS\}
 'granny's cheese'¹²

Inversion of MPs in idioms, in contrast, yields ungrammatical structures: **jabloko adamovo* 'apple Adam_{POSS}', **džužina čertova* 'dozen devil_{POSS}' ('a baker's dozen'), **kovčeg noev* 'arch Noah_{POSS}'. Under the assumption that such generic terms are produced by head movement of N to D, the failure of lexical compounds to invert might indicate the inseparability of their elements, which in turn supports their analysis as single lexemes.¹³

(v) Another distinction between idiomatic and non-idiomatic MPs lies in their extraction abilities. While non-idiomatic MPs can extract under the same conditions as relational adjectives (cf. (14a) & (14b)), discussed in Pereltsvaig (to appear, fn.17), those in idioms cannot (14c). Since one of the conditions for extraction is contrastive stress, which presupposes the restrictive nature of the modifier, lexical idioms, whose possessives are not restrictive modifiers, are predicted to yield ungrammatical structures. Note that idioms easily extract as a unit under similar conditions—(14d).¹⁴

¹² This kind name has the following reading 'cheese like the granny makes'. Note that the generic terms in (13) are used as food labels, and their inverted word order cannot stem from the focalization of the adjective, as an anonymous reviewer suggests.

¹³ This inability of idioms to yield generic terms can also be related to the fact that their possessives are not restrictive in a regular sense: *adamovo jabloko* 'Adam's apple' is not a real apple, as discussed above. The possessive forms with the head noun a set, which is a singleton. More research on such generic terms and their syntactic structure is needed to better understand this contrast.

¹⁴ Idioms behave similarly under focus fronting within the noun phrase: they invert across the determiner-like elements (an RP *moi* 'my' in (i)) as one unit together with their MP, and stranding the latter results in ungrammaticality (ii):

- (14) a. Mne ANGLIJSKIJ dajte zamok posmotret'. (relational adj)
 To-me English give lock to-see
 'Please, show me a YALE lock.' (Pereltsvaig, op.cit., fn.17)
- b. AXILLESOVO on potjanul suxožilie, a ne podkolennoe.
 Achilles_{POSS} he strained tendon and not popliteal
 'He strained an Achilles tendon, not a popliteal one.' (nIMP)
- c. * [AXILLESOVOJ] byl lift v našem institute [t pjatoj],
 Achilles_{POSS} was lift in our institute heel,
 a ne paločkoj-vyručaločkoj. (IMP)
 and not magic wand
- d. [Axillesovoj PJATOJ] byl lift v našem institute, a ne paločkoj-
 vyručaločkoj. (IMP)
 'The elevator in our institute was an Achilles' heel rather than a
 time-saver.'

We can conclude that Russian, similarly to English, distinguishes between two types of MPs: those that appear in lexical idioms, and others that surface in syntactic collocations. The latter have a TYPING interpretation similar to relational-(possessive) adjectives. In the following section, I will compare MPs and RPs.

3 Modificational Possessives versus Referential Possessives

Munn (1995) proposes to analyze both types of possessives as subjects of the head noun adjoined to N: MPs are analyzed as NP-subjects, while RPs—as DP-subjects. The second distinction lies in the placement of the genitive affix -'s (or its locus of checking):-'s of MPs is an Agr-head, while that of RPs is a D-head with a strong genitive [+Case] feature. The presence of [+Case] feature forces RPs to move to Spec, DP for checking reasons, while MPs cannot move higher than Spec, AgrP. Thus, the distinctions between the two types are derived by appeal to the homonymy of the possessive inflection, which can be either an agreement or a Case marker. In this section, I will demonstrate that Russian non-idiomatic MPs and RPs also exhibit NP vs. DP distinction in their internal

-
- (i) v zaključenie, [[sukiny syny]_i [moi... t_i]]
 in conclusion, bitch_{POSS.PL} son_{PL} my_{PL} ... 'in sum, my sons-of-a-bitch...'
- (ii)* v zaključenie, [syny_i [moi [sukiny t_i]]]

organization, which accounts for the dissimilarity of both their behavior and surface position. It will be shown in section 3.2 that both types of possessives are merged within the NP-domain of the possessee phrase. Yet, contra Munn (*ibid.*), it will be demonstrated that Russian RPs may but need not rise to Spec, DP.

3.1 Distinct Properties of Modificational and Referential Possessives

3.1.1 Distinct Internal Structure of MPs and RPs. Building on the ideas in Trugman (2004b), I want to suggest the following structures for RPs and MPs. Trugman (*ibid.*) analyzes the possessive suffix as a semi-lexical predicator $\text{Head}_{\text{poss}}$ (H_{poss} hereafter) endowed with an independent semantic content, loosely formulated as ‘*in the state of being controlled by X*’. When the H_{poss} merges with a bare NP a modificational possessive satellite is formed— $[\text{H}_{\text{poss}} \text{-in/-ov } [\text{NP N}]]$, in a process similar to relational-(possessive) adjective formation (see fn.7). Referential possessives, on the other hand, have a more complex structure with H_{poss} merging with a DP phrase— $[\text{H}_{\text{poss}} \text{-in/-ov } [\text{DP D } [\text{NP N}]]]$, as happens, for instance, with possessive pronouns. In both cases a hybrid category with mixed nominal and adjectival properties is born, yet only RPs can serve as referential operators licensing an empty Determiner in the possessee phrase, due to the presence of D (cf. Giusti 2002).¹⁵ As mentioned above, possessive formation in Russian is restricted to intrinsically referring nominal bases (see section 1). Yet, this inherent referentiality may get bleached in the absence of the functional structure (i.e. D-head) licensing it. Hence all idiomatic terms hosting MPs formed from proper names do not refer and cannot be discourse prominent/topical. In the following sections the claim that H_{poss} tops an NP in modificational possessives will be validated by (i) the ungrammaticality of possessive pronouns as MPs, (ii) inability of MPs to bind anaphors and (iii) to serve as reference-anchors.

(i) Under the assumption that personal pronouns are D-heads (Postal 1970 and more recent references), possessive pronouns are necessarily DPs, and hence referential. Thus, they are not expected to be used as MPs. This line of reasoning is supported by the fact that Russian employs a possessive pronoun *svoj* ‘self’s’ devoid of ϕ -features for modificational use. *Svoj* usually accompanies non-referring uses of nouns,

¹⁵ I follow a standard assumption that the DP-layer is the licensing site of referentiality (cf. Stowell 1991, Longobardi 1994, *ao.*)

in proverbs, idioms and other intensional environments:¹⁶ e.g. *svoja rubaška bliže k telu*, lit.: ‘one’s own shirt (is) closer to the body’ in the sense ‘take care of yourself first’. Such instances of *svoj* cannot be replaced by any other possessive pronoun: **moja / tvoja / ix / vaša / naša / ego / eë rubaška ...* ‘my/ your_{SG}/ their/ your_{PL}/ his/ her shirt ...’.

(ii) If RPs are DPs they are individual-denoting and should be able to bind a pronominal anaphor. If MPs, in contrast, are NPs they are property-denoting. Consequently they are expected to fail as binders of pronouns (cf. Kolliakou 1999). This is illustrated in (15), where an RP *Petina* can be co-referential with the pronoun *on* ‘he’, whereas an MP *Bazedova* cannot (under the modificational reading of the possessive, i.e. as the name of the goiter disease).

- (15) *Petina*_i/ **Bazedova*_i *bolezn’ obostrilas’*, *i on*_i *ogorčilsja*.
 Peter_{POSS} / *Bazedov*_{POSS} *disease aggravated and he got-upset*
 ‘Peter’s_i / **Bazedov*’s_i *disease became acute and he_i got upset.*’

(iii) Distinct internal structures of MPs and RPs are also reflected in their distinct semantic impact: while the presence of an MP does not turn a noun phrase into referential, the presence of a RP can (though need not necessarily do so, see section 3.2). In particular, MP-hosting noun phrases may function as arguments of a verbal predicate only when accompanied by a referential element, as shown in (16) below:¹⁷

- (16) a. *Lift vsegda byl axillesovoj pjatoj* *(*našego instituta*).
 lift always was Achilles_{POSS} heel (our_{GEN} institute_{GEN})
 ‘The elevator has always been our institute’s Achilles’ heel.’
 b. * (*Petina*) *Bazedova bolezn’ progressirovala*.

¹⁶ *Svoj* can also be used referentially when found in an anaphoric chain bound by a referential antecedent: *Petja_i porval svoju_i rubašku*. ‘Peter tore his shirt.’

¹⁷ In existentially- and generically-bound environments, Russian allows for bare singular count nouns hosting modificational possessives, as shown in (i) and (ii):

(i) *Est’ vernoe babuškino sredstvo ot xrapa–podvjzat’ platkom podborodok*.

is sure granny’s remedy against snoring–tie up with kerchief chin

‘There is an unailing folk remedy for snoring–to tie up a chin with a kerchief.’

(ii) *Bazedova bolezn’ —očen’ ser’jeznoe zabolevanie*.

Bazedov’s disease (=goiter) (is) a very serious illness. (cf. with (16b))

I assume that in such contexts a null determiner is unselectively bound by the generic or existential operator (cf. Longobardi 1999).

Peter_{POSS} Bazedov_{POSS} disease was-progressing
 ‘Peter’s goiter was getting worse.’

Likewise, English property-denoting possessives require the presence of a determiner in argumental singular DPs: **women’s magazine* vs. *Mary’s/this/a women’s magazine*; *(*an Achilles’ heel*). RPs, in contrast, are usually analyzed as reference-anchors (Koptjevskaja-Tamm 2004) and usually, though not always, mark the noun phrase as referential and definite.¹⁸

3.1.2 *Distinct Surface Positions of MPs and RPs.* That MPs are merged lower than RPs and cannot attain as high a position within the nominal projection as RPs do by movement is supported by the following data.

(i) First, while MPs tend to appear adjacent to the head-noun (17a) and very rarely can be separated from the latter by other adjectives, cf. (12a), RPs can be non-adjacent and always precede relational adjectives (17a), idiomatic (18a) and non-idiomatic MPs (18b).¹⁹ RPs are underlined, while MPs are italicized in (17) & (18).

(17) a. papinoj ital’janskoj krovi (RP)
 father_{POSS} Italian blood
 ‘father’s Italian blood’
 vs. *ital’janskoj papinoj krovi

¹⁸ Note that nouns with MPs, as in (16), can also be rendered grammatical in the presence of the referential possessor external to the possessivized noun phrase, which is nevertheless obligatory, as shown in (i) and (ii) below:

- (i) U nego — Bazedova bolezn’.
 at him (is) Bazedov_{POSS} disease
 ‘He has a goiter.’
- (ii) Oni našli *(u nego) Bazedovu bolezn’.
 they found at him Bazedov_{POSS} disease
 ‘They found he had a goiter.’

¹⁹ Comparable data is found in English: ‘an annoying logician’s preciseness’ (MP) (from Woisetschlaeger 1983, (22a)) vs. ‘the logician’s annoying preciseness’ (RP); ‘this nasty women’s clothing’ (MP) (from Quirk et al., 1985) vs. ‘these women’s nasty clothing’ (RP).

- b. *klasičeskij ital'janskij mamin synoček* (nIMP)
 classical Italian mama_{POSS} boy
 'a classical Italian mama's boy'
 vs.* *mamin* *klasičeskij ital'janskij synoček*
- (18) a. *Maškino čertovo otrod'e oborvalo vsju jablonju!*
 Masha_{POSS} devil_{POSS} offspring picked-off whole apple-tree
 'Masha's devilish sons picked all the apples off the apple tree!'
 b. *Petina Bazedova bolezn' progressirovala.*
 Peter_{POSS} Bazedov_{POSS} disease was-progressing
 'Peter's Bazedov's disease was getting worse.'
 vs.* *Bazedova Petina bolezn' progressirovala.*

As shown in (18), when co-occurring in one noun phrase, an RP always precedes an MP, clearly indicating their distinct surface positions.²⁰

(ii) The contrast in compatibility of the two types of Russian possessives with an adjective *sobstvennyj* 'own' provides additional evidence for their different placement within the nominal projection. Grashchenkov (2005: 80) proposes that *sobstvennyj* is a reflexive possessive which can be bound by the subject of the noun phrase: e.g. *sobstvennyj; žiznennyj opyt Svifta*, 'own life experience of-Swift' (ibid., (132)). By this rationale, RPs, which are standardly analyzed as subjects of noun phrases occupying Spec, DP, are expected to be proper binders of *sobstvennyj*: e.g. *moj sobstvennyj dom* 'my own house'. MPs, on the other hand, fail to bind *sobstvennyj*, as shown in (19). I take the failure of MPs as proper binders of the reflexive possessive to stem from their status as restrictive NP-modifiers of the head noun, which cannot move to the Spec, DP, and hence cannot function as subjects of DPs.

- (19) a. * *sobstvennyj; mamen'kin; synok* (nIMP)
 own mama's boy
 b. * *sobstvennye; anjutiny; glazki* (IMP)

(iii) Another environment distinguishing between referential and modificational possessives is approximative constructions in Russian,

²⁰ Compare with English: *Pierre Cardin's men's clothing* (from Munn 1995, (37)); and Hebrew (with the mirror word-order): *bigdey iša šel Yossi* lit.: clothes woman of Yossi, 'Yossi's woman's clothes'.

such as *Ja kupil knig pjat*. 'I bought approximately five books.', discussed in depth in Yadroff & Billings (1998) and Yadroff (1999). RPs do not block approximative constructions in contrast to attributive adjectives, which block it and require the use of a noun classifier *štuka* 'item' (Yadroff 1999: 174-181). Comparing RPs and MPs in approximative constructions, we see that the MP in (20b) blocks the inversion similarly to adjectives and requires the use of *štuka*, while the RP in (20a) does not ((20a) is cited after Y & B *ibid*, (31)).²¹

- (20) a. *Knig pjat' moix tak i ostalis' u nego.* (RP)
 Books five my so and got-left at his
 'Approximately five books of mine got left at his place.'
- b. *On pereproboval {sredstv pjat' babuškinyx,²² štuk pjat'*
 he tried {remedies five granny_{POSS}, items five
babuškinyx sredstv}, no ničego ne pomoglo. (MP)
 granny_{POSS} remedies} but nothing not helped.
 'He has tried five granny's remedies, but nothing helped.'

This provides additional evidence for the similarity between MPs and relational adjectives, and thus for the status of MPs as NP-modifiers of the head noun, as proposed here. In addition, it points to the distinct loci that MPs and RPs occupy in the overall DP-hierarchy in Russian.

To conclude, the data presented in section 3.1 appear to buttress the idea that modificational and referential possessives differ in their internal structure, hence their referential and binding properties, as well as their surface position within the noun phrase. MPs cannot raise to the Spec, DP to serve as referential anchors, and are found closer to the head; whereas RPs function as referential subjects of DPs and anaphor-binders and do not exhibit obligatory adjacency to the head noun. Noun phrases with two

²¹ Irrespective of the exact mechanism which blocks inversion in (20b), the contrast between RPs and MPs is clear-cut: only the latter block inversion on a par with restrictive adjectives, whereas the former allow for it presumably due to their distinct positioning within the DP, as claimed here.

²² This approximative construction in (20b) is ungrammatical only under the modificational reading of the possessive; otherwise it's grammatical and refers to five remedies used/practiced/invented by some specific granny. This contrast further supports the contention that *babuškiny* 'granny's' has a distinct structure and a distinct locus within the noun phrase in two cases.

co-occurring possessives, as in (18), lend substantial support to their analysis as NP- and DP-satellites of the head noun found within the NP- and DP-domains of the extended nominal projection respectively.

3.2 *Some Similarities between Modificational and Referential Possessives*

Despite the distinctions above, Russian non-idiomatic MPs and RPs exhibit some parallelism: they are grammatical in the following environments:

(i) primary predicates

- (21) a. Dom na gore ran'se byl [moim zavodom]. (RP)
 House on hill earlier was my plant
 'The house on the hill was formerly my plant.'
 b. Ne xočes', čtoby on byl [papen'kinym synkom]? (nIMP)
 Not want that he was papa_{POSS} sonny
 'You don't want him to be a papa's boy, do you?'

(ii) secondary predicates

- (22) a. On vseгда sčital menja [svoim drugom]. (RP)
 He always considered me_{ACC} self's friend
 'He always considered me his friend.'
 b. Do semnadcati žila [mamen'kinoj dočkoj]. (nIMP)
 Till seventeen lived mummy_{POSS} daughter
 'Till seventeen years old I lived like a mama's girl.'

(iii) satellites of non-referring noun heads

- (23) a. Moja xata s kraju, ničego ne znaju. (RP)
 My house at edge nothing not know
 Lit: I live in the house at the end hence I know nothing.
 'I don't know anything and don't want to be involved.'
 b. Ona xotela poprobovat' babuškino sredstvo ot xrapa.²³
 she wanted to-try granny_{POSS} means from snoring
 'She wanted to try a folk remedy for snoring.' (nIMP)

²³ *Babuškin* in (23b) is ambiguous between a non-referring (nIMP) and a referring reading (RP) in the scope of non-factual propositional modality (cf. (20b)): it can denote either a type of remedy or a specific granny.

In (23a) in the proverb the speaker does not refer to a specific house existing in the Universe of Discourse, yet the RP *moja* 'my' is legitimate and refers to the speaker. The possibility of intensional readings for possessivized nouns in (23) indicates that the possessives are not found in the Spec, DP but rather accompany an NP.²⁴ Likewise, we can conclude that possessives in (21) & (22) are merged within the NP-domain, under the assumption that predicative nouns are NPs rather than DPs (cf. Stowell 1991, Longobardi 1994). Hence, examples (21)-(23) strengthen the proposal that both MPs and RPs are merged in the NP-domain of the nominal projection, supporting Munn's (1995) movement analysis of RPs.

To summarize the empirical evidence in section 3, it has been shown that (i) Russian MPs are NPs, while RPs are full-fledged DPs; (ii) both types of possessives merge in the NP-domain of the noun phrase, yet (iii) end up at different loci, with only RPs being able to move up to the Spec, DP. I take these properties to stem from their distinct morphosyntax, discussed in section 1. Specifically, MPs are NP-possessives which cannot escape the NP-domain and always stay 'close to home', whereas RPs are DP-possessives which can (and sometimes must) 'run away from home', i.e. move to the Spec, DP. However, I will depart from Munn's (1995) analysis of possessor movement in English. He proposes that RPs have an uninterpretable D-feature, such as [+Case] which is in need of checking, hence RPs move up. In contrast to RPs, the -'s inflection of English MPs is analyzed as an *agreement marker* rather than a [+Case] feature in order to eliminate the need for its overt checking against D, which would be impossible in the absence of the DP-domain. His proposal, thus, is based on the homonymy of the possessive inflection in English. I want to propose that only RPs can move to the Spec, DP in Russian due to the presence of D in their structure which makes them proper referential licensers of an empty Determiner of the matrix nominal projection. In other words, an empty D attracts an RP whenever there is no other licenser present (cf. Munn's proposal that this movement is of

²⁴ Some predicative and intensional uses of nouns may be compatible with indefinite determiners yet these non-referential determiner-like elements can be analyzed as merged lower than the DP-layer (cf. Lyons' (1999) proposal of a Cardinality Phrase and Borer's (2005a) #P).

Greed nature). Whenever the DP-domain is not projected (as in (21)-(23)), the RP can stay ‘close to home’ and be grammatical in situ.²⁵

The present claim that the movement of RPs in Russian is triggered by Attract is supported by the noun phrases hosting several potential licensers of D (cf. Giusti 2002). In such cases, another referential element such as a demonstrative or an indefinite pronoun (24a), a referential adjective (24b) or one in a superlative degree (24c) can license D, and the possessor consequently may stay in situ (see Trugman 2004b: 148ff).

- (24) a. èta / odna mamina podrugá
 this/ one mother_{POSS} friend
 ‘this/one friend of mother’s’
- b. poslednjuju maminu rybu-fiš
 last mother_{POSS} fish-fish
 ‘the last piece of mother’s gefilte fish’
- c. samaja bol’saja papina jablonja
 most big father_{POSS} apple-tree
 ‘father’s biggest apple-tree’

4 Conclusion

In this paper I demonstrated that Russian possessives can be either modificational or referential, with the former splitting into two sub-types, used in idiomatic and non-idiomatic expressions respectively. This claim was substantiated by a number of tests in sections 2 and 3. In addition, in section 3.2, it was shown that both types of possessives are legitimate in either NPs or DPs, thus supporting their merge within the NP-domain. This, in turn, argues for the autonomous referential status of both phrases—the possessor and the possessee, i.e. of the possessive satellite and the matrix nominal projection. Distinct surface position of various possessives within the nominal projection has been accounted for by the exclusive ability of RPs to license a null matrix D. MPs, being referentially deficient, bare NPs do not count as proper licensers of a null

²⁵ This may be allowed under the assumption that the D-feature [+referential] is semantic and interpretable, hence does not require checking. Alternatively, it can be proposed that this feature of a possessive modifier can be checked together with its ϕ -features by covert Agree operation.

D and always remain in situ. The table below summarizes possible combinations of possessors and possesseees within Russian DPs:

P O S S E S S O R S	(25)	POSSESSEES	
	RPs	non-referential	referential
		<u>predicates</u> <i>On Petin načal'nik.</i> 'He is Peter's boss.'	definite
		<u>intensional uses of nouns</u> <i>moja xata s kraju</i> 'my house is at the edge'	<i>moja mama</i> 'my mother'
MPs	<u>predicates</u> <i>On mamen'kin synok.</i> 'He is a mama's boy.'	require a determiner-like element, overt or covert, to function as arguments: <i>kakoj-to sukin syn</i> 'some son-of-a-bitch' <i>Petina Bazedova bolezn'</i> 'Peter's Bazedov's disease'	
	<u>intensional uses of nouns</u> <i>Otol'jutsja koške myškiny slezki.</i> 'A cat will pay for a mouse's tears.'		

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Subjunctive Complements of Modal Verbs in Bulgarian and Macedonian

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1 Introduction

This article investigates constructions with subjunctive complements of modal verbs in Bulgarian (B) and Macedonian (M). B and M are pro drop languages, meaning that pronominal subjects are not usually expressed – being recoverable from the agreement on the verb. B and M lack the verbal category of infinitive. The corresponding structures are realized by complement clauses in the subjunctive, introduced by the modal particle *da*. Morphologically the subjunctive verb form is identical to those of the present indicative, in that it is fully inflected for tense and subject-agreement, as shown in (1)-(4).

- | | | | | | | |
|-----|-------------------------------------|---|-----|---------------------|--------|---|
| (1) | Decata | mogat | da | četat | knigi. | B |
| | children _{Def} | can _{3Pl} | SBJ | read _{3Pl} | books | |
| | 'The children can read books.' | | | | | |
| (2) | Decata | možat/moraat | da | čitaat | knigi. | M |
| | children _{Def} | can _{3Pl} /must _{3Pl} | SBJ | read _{3Pl} | books | |
| | 'The children can/must read books.' | | | | | |
| (3) | Decata | može | da | četat | knigi. | B |
| | children _{Def} | can _{3Sg} | SBJ | read _{3Pl} | books | |
| | 'The children can read books.' | | | | | |
| (4) | Decata | može/mora | da | čitaat | knigi. | M |
| | children _{Def} | can _{3Sg} /must _{3Sg} | SBJ | read _{3Pl} | books | |
| | 'The children can/must read books.' | | | | | |

The modal verbs *can* and *must* have two different forms: one personal and one impersonal. In constructions with the personal modal (PM), as in (1) and (2), the subject-DP agrees in Person and Number with both the matrix and embedded verb. In constructions with the impersonal modal (IM), as in (3) and (4), the subject-DP agrees in ϕ -features only with the embedded verb. It will be argued that the two

constructions differ semantically, morpho-syntactically and structurally. For both constructions a movement analysis will be proposed.

2 Semantic Properties of the Modal Constructions

PM and IM differ in their semantics, as the translations of the examples (5)-(9) illustrate.

- (5) Decata mogat [da izčistat stajata]. B
 children_{Def} can_{3Pl.Pres} [SBJ clean_{3Pl.Pres} room_{Def.Acc}]
 ‘The children are able to clean the room.’
- (6) Decata možat [da ja isčistat sobata]. M
 children_{Def} can_{3Pl.Pres} [SBJ it_{Cl.Acc} clean_{3Pl.Pres} room_{Def.Acc}]
 ‘The children are able to clean the room.’
- (7) Decata moraat [da ja isčistat sobata]. M
 children_{Def} must_{3Pl.Pres} [SBJ it_{Cl.Acc} clean_{3Pl.Pres} room_{Def}]
 ‘The children have the obligation to clean the room.’
- (8) Decata može [da izčistat stajata]. B
 children_{Def} can_{3Sg.Pres} [SBJ clean_{3Pl.Pres} room_{Def}]
 ‘It is possible that the children clean the room.’
- (9) Decata može/mora [da ja isčistat sobata]. M
 children_{Def} can_{3Sg.Pres}/must_{3Sg.Pres} [SBJ it_{Cl} clean_{3Pl.Pres} room_{Def}]
 ‘It is possible/necessary that the children clean the room.’

The examples with PM, as in (5)-(7), express the root-modal senses of ability, obligation, volition etc. The examples with IM, as in (8)-(9), express the epistemic senses of necessity or possibility. Furthermore, PM and IM impose different semantic restrictions on their complements. PM can take subjunctive complements only with eventive, see (10)-(11), but not with stative predicates, see (12)-(13).

- (10) Decata mogat [da bâdat/stanat čuvstvitelni]. B
 children_{Def} can_{3Pl} [SBJ are_{3Pl.SBJ}/get_{3Pl} sensitive]
 ‘The children can become/get sensitive.’
- (11) Decata možat/moraat [da bidat/stanat čuvstvitelni]. M
 children_{Def} can_{3Pl}/must_{3Pl} [SBJ are_{3Pl.SBJ}/get_{3Pl} sensitive]
 ‘The children can/must become/get sensitive.’
- (12) *Decata mogat [da sa čuvstvitelni]. B
 children_{Def} can_{3Pl} [SBJ are_{3Pl.IND} sensitive]
- (13) *Decata možat/moraat [da se čuvstvitelni]. M
 children_{Def} can_{3Pl}/must_{3Pl} [SBJ are_{3Pl.IND} sensitive]

IM do not impose such selectional restrictions on the embedded predicate. They can take complements with both stative and eventive predicates, as shown in (14)-(15).

- (14) Decata može [da sa/bâdat/stanat čuvstvitelni]. B
 children_{Def} can_{3Sg} [SBJ are_{3Pl}/are_{3Pl.SBJ}/get_{3Pl} sensitive]
 'It is possible that the children are/get sensitive.'
- (15) Decata može/mora [da se/bidat/stanat čuvstvitelni]. M
 children_{Def} can_{3Sg}/must_{3Sg} [SBJ are_{3Pl}/are_{3Pl.SBJ}/get_{3Pl} sensitive]
 'It is possible/necessary that the children are/get sensitive.'

The inability of PM in B and M to take stative predicates as their complements is a property that they share with subject control verbs, as illustrated in (16) and (17).

- (16) Decata započvat [da *sa/stavat/bâdat čuvstvitelni]. B
 children_{Def} begin_{3Pl} [SBJ *are_{3Pl}/get_{3Pl}/are_{3Pl.SBJ} sensitive]
 'The children begin to become/get sensitive.'
- (17) Decata počnuvaat [da *se/bidat/stanuvaat čuvstvitelni]. M
 children_{Def} begin_{3Pl} [SBJ *are_{3Pl}/are_{3Pl.SBJ}/get_{3Pl.IMP} sensitive]
 'The children begin to become/get sensitive.'

The question is whether PM and IM *can* and *must* in B and M should be analyzed as control or as raising verbs. There are some tests that can help to determine whether a given predicate behaves as raising or control verb. These tests include finding out whether expletives can appear in subject position, whether idiom chunks can occur in subject position, and whether the sentences in active and in passive voice are truth-conditionally equivalent.

If we apply these diagnostics to modal verbs in B and M, the following emerges: B and M do not have overt expletives. In constructions with meteorological expressions the modal verb displays always third person singular agreement, as in (18).

- (18) a. Može da vali. B
 can_{3Sg} SBJ rain_{3Sg}
 'It can rain.'
- b. Može/Mora da vrne. M
 can_{3Sg}/must_{3Sg} SBJ rain_{3Sg}
 'It can/must rain.'

In (18) it is not clear whether the modal is PM or IM. PM and IM can be distinguished morphologically only when the subject is in plural, as in (19)-(22).

- (19) Silni vetrove može [da duxat sledvaštata sedmica]. B
 strong winds can_{3Sg} [SBJ blow_{3Pl} next_{Def} week]
 'It is possible that strong winds blow next week.'
- (20) Silni vetrišta može/mora [da duvaat slednata nedela]. M
 strong winds can_{3Sg}/must_{3Sg} [SBJ blow_{3Pl} next_{Def} week]
 'It is possible/necessary that strong winds blow next week.'
- (21) *Silni vetrove mogat [da duxat sledvaštata sedmica]. B
 strong winds can_{3Pl} [SBJ blow_{3Pl} next_{Def} week]
 'Strong winds are able to blow next week.'
- (22) *Silni vetrišta možat/moraat [da duvaat slednata nedela]. M
 strong winds can_{3Pl}/must_{3Pl} [SBJ blow_{3Pl} next_{Def} week]
 'Strong winds are able/have the obligation to blow next week.'

The sentences with IM are acceptable, while the same sentences with PM are ungrammatical in both languages. The claim is that the oddness in (21) and (22) results from the semantic restrictions of PM. In the normal state of affairs PM requires a volitional entity as subject. The examples in (21) and (22) are ill-formed precisely because *strong winds* violates this selectional restriction.

Raising and control structures can be distinguished by their behaviour when the complement clause is passive. For raising predicates, a sentence with a passive complement is synonymous with the same sentence with an active complement. In B and M the sentences with IM are truth-conditionally equivalent in active and in passive, see (23)-(26). The sentences with PM express the ability/obligation of the doctors (27)/(28), and the ability/obligation of the patients (29)/(30), respectively.

- (23) Doktorite može [da pregledat pacientite]. B
 doctors_{Def} can_{3Sg} [SBJ examine_{3Pl} patients_{Def}]
 'It is possible for the doctors to examine the patients.'
- (24) Doktorite može/mora [da gi pregledaat pacientite] M
 doctors_{Def} can_{3Sg}/must_{3Sg} [SBJ them examine_{3Pl} patients_{Def}].
 'It is possible/necessary for the doctors to examine the patients.'
- (25) Pacientite može [da bâdat pregledani ot lekarite]. B
 patients_{Def} can_{3Sg} [SBJ be_{3Pl} examined by doctors_{Def}]
 'It is possible for the patients to be examined by the doctors.'

- (26) Pacientite može/mora [da bidat pregledani od doktorite]. M
 patients_{Def} can_{3Sg}/must_{3Sg} [SBJ be_{3Pl} examined by doctors_{Def}]
 'It is possible/necessary for the patients to be examined by the
 doctors.'
- (27) Lekarite mogat [da pregledat pacientite]. B
 doctors_{Def} can_{3Pl} [SBJ examine_{3Pl} patients_{Def}]
 'The doctors are able to examine the patients.'
- (28) Doktorite možat/moraat [da gi pregledaat pacientite]. M
 doctors_{Def} can_{3Pl}/must_{3Pl} [SBJ them examine_{3Pl} patients_{Def}]
 'The doctors are able/have the obligation to examine
 the patients.'
- (29) Pacientite mogat [da bādat pregledani ot lekarite]. B
 patients_{Def} can_{3Pl} [SBJ be_{3Pl} examined by doctors_{Def}]
 'The patients are able to be examined by the doctors.'
- (30) Pacientite možat/moraat [da bidat pregledani od doktorite]. M
 patients_{Def} can_{3Pl}/must_{3Pl} [SBJ be_{3Pl} examined by doctors_{Def}]
 'The patients are able/have the obligation to be examined
 by the doctors.'

According to this test the constructions with IM behave as raising, while the constructions with PM behave as control structures.

A final diagnostic for distinguishing raising from control constructions comes from the behaviour of idiomatic expressions. In (31) and (32), *the beetles* can take on a special meaning. As an idiom, (31) and (32) mean that someone is dealing with nonsense, and *the beetles* denote that nonsense.¹

- (31) Vlezli sa mu njakakvi brāmbari v glavata. B
 entered are_{3Pl} him_{Cl.Dat} some beetles into head_{Def}
 'Some crazy ideas have come into his head.'
- (32) Mu se vlezeni nekakvi bubački vo glavata. M
 him_{Cl.Dat} are_{3Pl} entered some beetles into head_{Def}
 'Some crazy ideas have come into his head.'

¹ Idioms are impossible with obligatory control verbs, see (i) and (ii).

- (i) *Znajat da mu vljazat vsjakakvi brāmbari v glavata. B
 know_{3Pl} SBJ him_{Cl} enter_{3Pl} all-possible beetles into head_{Def}
- (ii) *Znaat da mu vlezat sekakvi bubački vo glavata. M
 know_{3Pl} SBJ him_{Cl} enter_{3Pl} all-possible beetles into head_{Def}

Applying this test to constructions with modal verbs in B and M, it is clear from the examples (33)-(36) that they are possible with IM but not with PM.²

- (33) *Mogat da mu vljazat vsjakakvi brâmbari v glavata. B
 can_{3Pl} SBJ him_{Cl} enter_{3Pl} all-possible beetles into head_{Def}
 'All kinds of crazy ideas can come into his head.'
- (34) Može da mu vljazat vsjakakvi brâmbari v glavata. B
 can_{3Sg} SBJ him_{Cl} enter_{3Pl} all-possible beetles into head_{Def}
 'It is possible that all kinds of crazy ideas will come into his head.'
- (35) *Možat da mu vlezat sekakvi bubački vo glavata. M
 can_{3Pl} SBJ him_{Cl} enter_{3Pl} all-possible beetles into head_{Def}
 'All kinds of crazy ideas can come into his head.'
- (36) Može da mu vlezat sekakvi bubački vo glavata. M
 can_{3Sg} SBJ him_{Cl} enter_{3Pl} all-possible beetles into head_{Def}
 'It is possible that all kinds of crazy ideas will come into his head.'

It is generally assumed that expressions can retain their idiomatic interpretation with raising predicates, but not with control predicates.³ The examples (34) and (36) with IM can still be interpreted as describing situations in which *the beetles* can refer to nonsense. Thus, the constructions with IM pattern with raising constructions. In the examples (33) and (35) with PM the idiomatic interpretation is not longer possible: in (33) and (35) *the beetles* can only be used in their concrete meaning as referring to insects, which causes the ill-formedness of the sentences.⁴ Thus, according to this test the constructions with PM are control constructions.

² Contexts in which the sentences (33)-(35) and (34)-(36), respectively, could occur are given in (i) and (ii).

- (i) I don't know what he will do. He is capable of wasting his time on anything, however stupid or pointless it is.
 (ii) I don't know what he will do. He is unpredictable. It's possible that he will waste his time on nonsense, and will not do what's expected of him.

³ In English the idiomatic meaning is preserved in raising but not in control structures, see (i) and (ii).

- (i) Mary believed the cat to be out of the bag by now.
 (ii) ²Mary persuaded the cat to be out of the bag.

⁴ The sentences are degraded semantically, since it is difficult to imagine how beetles can enter someone's head.

Based on the data discussed in this section it seems plausible to assume that PM in B and M are rather control than raising verbs. The structures with IM behave in both languages as raising structures. However, they clearly differ from raising structures in languages like English, as the section 6 will show.

3 Personal Modal Verbs in Bulgarian and Macedonian

In constructions with PM, as in (37) and (38), the embedded and the matrix subject must be co-indexed. The lower co-indexed subject is unpronounced, represented as an empty category (EC), while the higher co-indexed subject is expressed. The unrealized embedded subject is referentially strictly identical to the matrix subject, see (37)-(38).

- (37) Decata; mogat [EC_{i/*j} da pristignat v petâk]. B
 children_{Def} can_{3Pl} [EC SBJ arrive_{3Pl.Pres} on Friday]
 'The children can arrive on Friday.'
- (38) Decata; možat/moraat [EC_{i/*j} da pristignat vo petok]. M
 children_{Def} can_{3Pl}/must_{3Pl} [EC SBJ arrive_{3Pl.Pres} on Friday]
 'The children can/must arrive on Friday.'

Furthermore, the embedded clauses have tense morphology, but the present tense is the only morphology they can get. The subjunctive predicate must be inflected for present tense regardless of whether the matrix verb has present, past or future tense morphology, as shown in (39)-(41).

- (39) Decata možaxa/mogat/šte mogat [da pristignat v petâk]. B
 children could_{3Pl}/can_{3Pl}/will can_{3Pl} [SBJ arrive_{3Pl.Pres} on Friday]
 'The children could/can/ will be able to/ arrive on Friday.'
- (40) Decata može/možat/ke možat [da pristignat vo petok]. M
 children could_{3Pl}/can_{3Pl}/will can_{3Pl} [SBJ arrive_{3Pl} on Friday]
 'The children could/can/will be able to/ arrive on Friday.'
- (41) Decata moraa/moraat/ke moraat [da pristignat vo petok]. M
 children should_{3Pl}/must_{3Pl}/will must_{3Pl} [SBJ arrive_{3Pl} on Friday]
 'The children had/must/will must arrive on Friday.'

If the tense form of the embedded predicate is other than present, the sentences become unacceptable, compare (37)-(38) with (42)-(43).

- (42) *Decata mogat [da sa pristignali v petâk]. B
 children_{Def} can_{3Pl} [SBJ have_{3Pl} arrived_{Part.Pl} on Friday]
- (43) *Decata možit/moraat [da pristignale vo petok]. M
 children_{Def} can_{3Pl}/must_{3Pl} [SBJ arrived_{3Pl} on Friday]

Thus, the present tense morphology on the embedded verb is only a default, as the time reference of the subjunctive complement is entirely determined by the tense of the matrix verb.

Based on the facts that the constructions with PM and IM in B and M do not have two independent subjects and the embedded complement lacks independent tense we can conclude that these constructions have similar properties as obligatory control structures in languages with infinitive complements.

4 Standard Analysis of Obligatory Control Constructions

Roberts (1985) investigates English modal verbs and classifies deontic modals as control verbs, that assign a(n adjunct) θ -role to their subjects, and epistemic modals as raising verbs, that do not θ -mark their subject positions. Following Roberts (1985), I assume that PM in B and M (being deontic modals) behave like obligatory control verbs.

The presence of subject agreement on the embedded predicate, along with the fact that B and M are null subject languages, suggests that the subjunctive complements to PM are no different from any null subject embedded clauses (CPs), with a Case position occupied by *pro*. Consider the following examples.

- (44) Decata_i mogat [*pro*_i da četat knigi]. B
 children_{Def} can_{3Pl.Pres} [*pro* SBJ read_{3Pl.Pres} books].
 'The children can read books.'
- (45) Decata_i možit/moraat [*pro*_i da čitaat knigi]. M
 children_{Def} can_{3Pl.Pres}/must_{3Pl.Pres} [*pro* SBJ read_{3Pl.Pres} books]
 'The children can/must read books.'

If the EC in the embedded subject position were *pro*, then it should be possible that *pro* alternates with a lexical DP. This is not the case. The corresponding examples are ungrammatical.

- (46) *Decata mogat [studentite da četat knigi]. B
 children_{Def} can_{3Pl} [students_{Def} SBJ read_{3Pl} books].

- (47) *Decata možat/moraat [studentite da čitaat knigi]. M
 children_{Def} can_{3PI}/must_{3PI} [students_{Def} SBJ read_{3PI} books]

Thus, the *pro*-based analysis cannot capture the obligatory co-referential interpretation of the embedded and the matrix subjects.

The second possibility is that the EC in the embedded complement is PRO, cf. Krapova (2001). This analysis can explain the obligatory co-reference of the matrix and the embedded subjects. However, it requires that PRO occupies the specifier position of a finite T. According to the standard analysis of control, PRO is permissible only in the specifier position of a non-finite T.

The examples (48) and (49) represent structures with the so-called Backward Control, cf. Polinsky & Potsdam (2002), in which the downstairs subject is pronounced and the upstairs subject is non-overt, thematic, co-indexed EC. In (48) and (49) the overtly expressed subject remains in situ and thus appears after the embedded verb.

- (48) EC_i mogat [da četat decata_i knigi]. B
 can_{3PI} [SBJ read_{3PI} children_{Def} books
 'The children can read books.'
- (49) EC_i možat/moraat [da čitaat decata_i knigi]. M
 can_{3PI}/must_{3PI} [SBJ read_{3PI} children_{Def} books]
 'The children can/must read books.'

The question is what kind of EC occupies the matrix subject position? If it were PRO, then it should remain un-bound. Since PRO must be by definition bound, the matrix subject could not be PRO. If it were *pro*, then the embedded R-expression *decata* 'the children' should be bound by the empty category *pro*, which would trigger a Condition C violation. Since the R-expression in the embedded clause must be free, the sentence should be ungrammatical, contrary to fact. Thus, the EC in the matrix subject position in (48) and (49) cannot be PRO or *pro*.

The third possibility is to assume a mono-clausal/restructuring analysis à la Wurmbrand (2001). However, there are several facts that show that the subjunctive complements in B and M cannot be *vP*. Clitic climbing, which is the crucial argument in favour of the mono-clausal analysis, is not available in B and M. As the examples (50) and (51) illustrate, clitic climbing out of the embedded *da*-complement leads to ungrammaticality.

- (50) Decata *(ja) mogat [da ja pročetat]. B
 children_{Def} it_{Cl.Fem} can_{3Pl} [SBJ it_{Cl.Fem} read_{3Pl}]
 'The children can read it.'
- (51) Decata *(ja) možat/moraat [da ja pročitaat]. M
 children_{Def} it_{Cl.Fem} can_{3Pl}/must_{3Pl} [SBJ it_{Cl.Fem} read_{3Pl}]
 'The children can/must read it.'

Second, the embedded predicate has tense and agreement morphology (i.e., the embedded T is ϕ -complete). This suggests that the subjunctive complement is a projection bigger than vP .

And finally, the embedded predicate can also be negated, see (52) and (53).

- (52) Možeš li [da ne mi kreštiš taka]?⁵ B
 can_{2Sg} Q [SBJ not (at) me_{Cl.Dat} yell_{2Sg} so]
 'Can you please not yell at me so?'
- (53) Decata možat [da ne odat na zabavata]. M
 children_{Def} can_{3Pl} [SBJ not go_{3Pl} to party_{Def}]
 'The children need not go to the party.'

If we assume that the sentential negation projects its own phrase that is situated between vP and TP, cf. Pollock (1989), then the embedded complement must be a projection bigger than vP .⁶

5 Syntactic Analysis of Constructions with PM in B and M

I assume that PM in B and M behave like obligatory control verbs. Following Hornstein (2003), I argue that constructions with PM are derived via A-movement of the embedded subject out of the subjunctive. The assumption is that, despite agreement with the subjunctive T, the subject-DP cannot value its Case feature in the complement, and, consequently, remains active for further Agree/checking operations in the matrix clause.

Hornstein (2003) proposes to dispense with the θ -criterion and the control module, including the PRO theorem. His analysis views θ -roles as features which have to be checked (i.e., valued) and crucially,

⁵ The subjunctive particle *da*, the sentential negation *ne* and the object clitic *mi* are part of the clitic cluster on the verb and cannot be separated from one another.

⁶ The same conclusion holds if we follow Rivero (1994) in the assumption that NegP is located above TP and that MoodP takes NegP as its complement. See also foot note 10.

enables a DP to be associated with more than one θ -role. According to Hornstein obligatorily controlled PRO is simply a lower unpronounced copy, left by A-movement from an embedded subject position to a θ -position in the subordinating clause.

Appealing to Chomsky's (2001, 2005) notion of "phase", Hornstein assumes that CPs are phases and that A-movement out of a complement is not possible if the complement is a CP at the point that movement occurs. Normally, when a constituent moves out of a CP, Spec,CP serves as an escape hatch. However, the CP edge is an A'-position and movement out of A'- into A-position is a violation of the Chain Uniformity principle. Movement analysis therefore depends on the non CP-status of the complement.

According to Chomsky (2001), the absence of a C-layer has important consequences for the feature specification of T. If C is present, the set of ϕ -features associated with the T-position in a clause is complete, and agreement between T and a subject-DP can value and delete the Case feature of this DP, making it inactive for further operations. However, without a selecting C-head, T's feature specification is defective (its set of ϕ -features is incomplete). Agreement between T and a subject-DP is no longer possible, and the Case feature of the DP cannot be valued. As a consequence, the subject must enter a long-distance agree operation with a higher (non-defective) T-head of the matrix clause, in order to value its Case feature.

I adopt Hornstein's (2003) proposal and assume that subjunctive complements of PM in B and M have reduced structures and represent weak phases/TPs with a defective T. The fact that the subjunctive complement displays agreement between the verb and the subject-DP shows that T's set of ϕ -features is complete. The question is in what sense subjunctive T is defective. In B and M the subjunctive complements of PM lack morphological tense, since the present tense morphology on the subjunctive verb is only a default, see section 3. They lack also semantic Tense, since the subjunctive verb can not be modified by a temporal adverb with independent reference, see (54)-(55).

- (54) *Decata možaxa včera [da pristignat utre]. B
 children could_{3Pl} yesterday [SBJ arrive_{3Pl.Pres} tomorrow]

- (55) *Decata možea/moraa včera [da pristignat utre]. M
 children_{Def} could_{3Pl}/should_{3Pl} yesterday [SBJ arrive_{3Pl} tomorrow]

Furthermore, there is no Nominative Case available in the complement, see (46)-(47). This means that in B and M agreement does not correlate with Case because Nominative Case is not assigned in the complements of PM which nevertheless show full agreement. Suppose that the defectiveness of T in subjunctive complements of PM is not due to the absence of agreement, but to the absence of semantic Tense.⁷ We can further assume that Nominative Case is linked to semantic tense.^{8,9} As the subjunctive complement is tenseless, the subject-DP cannot value its Case in the subjunctive and remains active for an agree/checking operation with the matrix T.

For the examples in (56) and (57) the derivation will proceed as in (58).

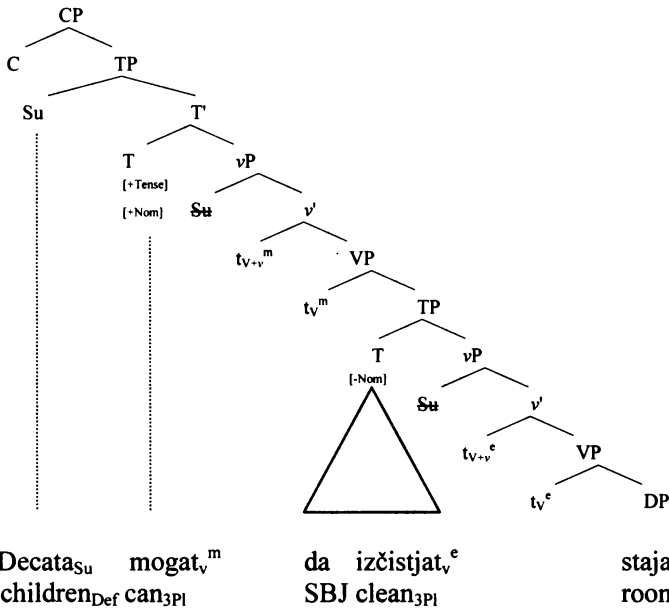
- (56) Decata mogat [da izčistjat stajata]. B
 children_{Def} can_{3Pl} [SBJ clean_{3Pl} room_{Def}]
 'The children can clean the room.'
- (57) Decata možat/moraat [da ja isčistat sobata]. M
 children_{Def} can_{3Pl}/must_{3Pl} [SBJ it_{Cl} clean_{3Pl} room_{Def}]
 'The children can/must clean the room.'

⁷ An expression bears semantic tense if it specifies whether the proposition has to be evaluated in the past, present or future. Semantic tense seems to be a property of clausal heads or of C-T complex.

⁸ See Alexiadou/Anagnostopoulou (1999) with this proposal for OC subjunctives in Modern Greek. For Alexiadou/Anagnostopoulou (1999) the condition for the lack of Nominative Case is the lack of semantic tense, a property that does not appear to vary cross-linguistically, see Martin (1996) for English.

⁹ Portuguese has inflected infinitives whose subjects are Nominative and show agreement with the infinitival verb, suggesting that agreement, not tense, is responsible for Nominative Case. However, inflected infinitives cannot be subcategorized by modal or OC verbs, cf. Sitaridou (2002: 32). They are possible only as complements of non-obligatory control verbs, as subjects or as adjuncts, thus, when the inflected infinitives are CPs.

(58)



B and M are SVO languages. The subject-DP is merged in Spec, vP , where it gets the external θ -role of the embedded verb. The subjunctive particle *da* is generated in T. Since *da* is a part of the clitic cluster on the verb, the verb has to raise obligatorily into T in order to adjoin to the particle.¹⁰

The embedded verb in T enters into an Agree relation with the subject-DP in Spec, vP valuing its own *uninterpretable* ϕ -features against the interpretable ϕ -features of the subject-DP. Since the embedded T is tenseless, it is not able to value the Case feature of the embedded subject. The subject, having an *uninterpretable* Case feature, remains active and may participate in further agree/checking relation in the main clause. The subject-DP undergoes A-movement from the embedded into the matrix Spec, vP , where it checks the external θ -role of PM. Finally, it moves into Spec,TP. Since the matrix clause is a CP, the matrix T is ϕ -complete and tensed and can value the Nominative Case on the subject-DP. In the process, the matrix T also values its own *uninterpretable* ϕ -features which results

¹⁰ I analyse *da* as a genuine T element. Alternatively, we can assume that *da* is inserted as head of MoodP and takes TP as its complement (cf. Rivero 1994, Krapova 2001). In this case the verb must obligatorily move into Mood.

in agreement with the raised subject. Feature valuation is now complete and the derivation converges as desired.

6 Impersonal Modal Verbs in Bulgarian and Macedonian

In this section I will turn to the constructions that exhibit unexpected agreement patterns: the sentences involving IM, as in (59) and (60).

- (59) Decata može [da pristignat utre]. B
 children_{Def} can_{3Sg.Pres} [SBJ arrive_{3Pl.Pres} tomorrow]
 ‘It is possible that the children arrive tomorrow.’
- (60) Decata može/mora [da pristignat utre]. M
 children_{Def} can_{3Sg.Pres}/must_{3Sg.Pres} [SBJ arrive_{3Pl.Pres} tomorrow]
 ‘It is possible/necessary that the children arrive tomorrow.’

The subjunctive complements of IM are clearly different from subjunctive complements of PM. In constructions with IM the subject agrees only with the embedded predicate, see (59) and (60), while in structures with PM it agrees with both the main and embedded verb. Furthermore, in contrast to constructions with PM in constructions with IM the subjunctive predicate can be not only in present, as in (59) and (60), but also in past tense, as in (61) and (62).

- (61) Decata može [da sa pristignali v petâk]. B
 children_{Def} can_{3Sg.Pres} [SBJ have_{3Pl} arrived_{Part.Pl} on Friday]
 ‘It is possible that the children have arrived on Friday.’
- (62) Decata može/mora [da pristignale vo petok]. M
 children_{Def} can_{3Sg.Pres}/must_{3Sg.Pres} [SBJ arrived_{3Pl} on Friday]
 ‘It is possible/necessary that the children have arrived on Friday.’

The reason of treating these structures as raising structures is that IM does not assign θ -role to the moved subject, a property that these constructions share with typical raising constructions. However, the sentences in (59) and (60) are fundamentally different from raising structures in languages such as English. First, in English the raising verb does agree in ϕ -features with the raised subject, as given in (63), while in B and M raising of the embedded subject doesn't trigger agreement on the IM, as the examples (59) and (60) demonstrate.

- (63) a. John seems/*seem to like foreign films.
 b. The children seem/*seems to like animated films.

Second, subject raising is not obligatory in B and M. While in (59) and (60) the subject is moved in front of the main clause, in (64) and (65) it remains within the subjunctive complement and occurs after the particle *da* and the verb.

- (64) Može [da pristignat decata utre]. B
 can_{3Sg.Pres} [SBJ arrive_{3Pl.Pres} children_{Def} tomorrow]
 'It is possible that the children arrive tomorrow.'
 (65) Može/mora [da pristignat decata utre]. M
 can_{3Sg.Pres}/must_{3Sg.Pres} [SBJ arrive_{3Pl.Pres} children_{Def} tomorrow]
 'It is possible/necessary that the children arrive tomorrow.'

These two properties suggest that the constructions are not derived via subject-to-subject raising as in English but via (long distance) topicalization.

The proposal is that IM in B and M take a strong phase/CP as their complement and always appear with third person singular agreement. Empirical evidence comes from the fact that the embedded predicate can have present and past morphology, whereas the embedded complement of PM displays only present tense morphology. Thus, while subjunctive complements of PM are tenseless, i.e., they bear anaphoric tense, subjunctive complements of IM allow for a distinct tense domain from that of the matrix clause, even if dependent on the matrix T given the irrealis status of subjunctive in general. Furthermore, in constructions with IM the embedded subject differs from the subject of the matrix clause. These are properties typical for strong (CP) and not for weak phases (TP). Since the subjunctive complement is a CP, the embedded T is ϕ -complete and tensed and can value the nominative Case of the embedded subject.

Returning to the agreement facts, let us first consider sentences involving IM in which nothing has moved out of the embedded clause. If subjectless subjunctive complements have null pronominal subjects, then it should always be possible for the agreement on the embedded verb to be different from the agreement on the matrix verb. The following examples show that this assumption is right.

- (66) Može [*pro* da sa veče vkâšti]. B
 can_{3Sg} [*pro* SBJ are_{3Pl} already at home]
 'It is possible that they are already at home.'
- (67) Može/Mora [*pro* da se veče doma]. M
 can_{3Sg}/must_{3Sg} [*pro* SBJ are_{3Pl} already at home]
 'It is possible/necessary that they are already at home.'

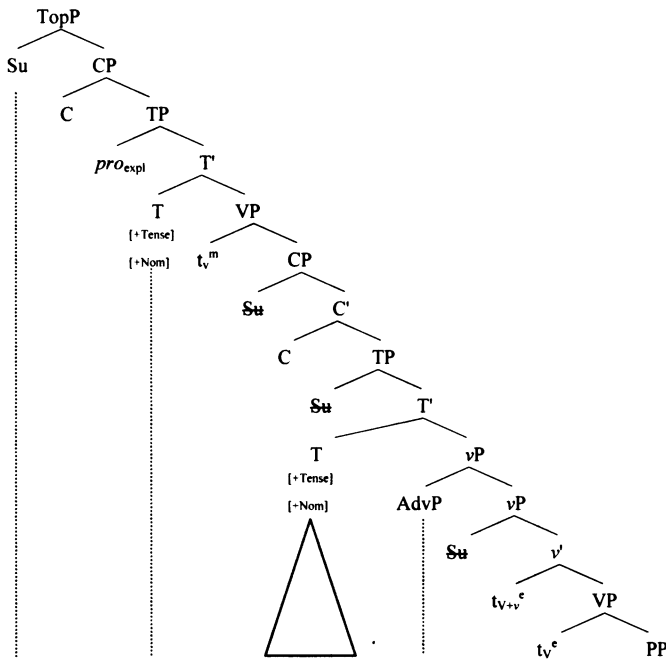
In (66) and (67) the IM select subjunctive complements whose subject is a referential *pro* that gets its θ -role from the embedded predicate. Since the embedded subject is a referential *pro*, it should be able to alternate with lexical DPs. That is what we find in examples (68)-(71).

- (68) Može [decata da sa veče vkâšti]. B
 can_{3Sg} [children_{Def} SBJ are_{3Pl} already at home]
 'It is possible that the children are already at home.'
- (69) Može/Mora [decata da se veče doma]. M
 can_{3Sg}/must_{3Sg} [children_{Def} SBJ are_{3Pl} already at home]
 'It is possible/necessary that the children are already at home.'
- (70) Decata može [da sa veče vkâšti]. B
 children_{Def} can_{3Sg} [SBJ are_{3Pl} already at home]
 'It is possible that the children are already at home.'
- (71) Decata može/mora [da se veče doma]. M
 children_{Def} can_{3Sg}/must_{3Sg} [SBJ are_{3Pl} already at home]
 'It is possible/necessary that the children are already at home.'

In sentences (68) and (69), the embedded subject is expressed overtly and occurs immediately before the subjunctive particle. In (70) and (71) the subject is dislocated into clause-initial position.¹¹ The syntactic derivation for the examples (70) and (71) will proceed as in (72):

¹¹ The embedded subject can also remain in situ (Spec,_{vP} of the subjunctive complement). The subject dislocation depends upon the information structure of the sentence.

(72)



Decata_{Su} može_v^m da sa_v^e več vkāšti.
 children_{Def} can_{3Sg} SBJ are_{3Pl} already at home

In (72) the subject-DP obtains the external θ -role by merging into Spec,vP of the subjunctive complement. The embedded predicate moves from V to v and then into T where it adjoins to the particle *da*. Since the subjunctive is a CP, the embedded T is ϕ -complete and tensed, and agreement between T and the subject-DP can value and delete the Case feature of this DP, making it inactive for further agreeing operations. When the subject-DP occurs clause-initially it does not trigger agreement on the IM.

In (72) the IM bears third person singular agreement – though agreement with *what* is not clear. IMs do not have an external θ -role to assign and B and M are languages without overt expletives. The proposal is that third person singular agreement is default agreement. That agreement appears on verbs when there is no argument with which they agree. Its occurrence is necessitated by the fact that *all* verbs must inflect for agreement.

In (72) there is no overt subject with which IM can agree, and there is no θ -role to be assigned. Let us assume, then, that IM lack a vP projection – the projection in which the external argument is merged, cf. Grohmann (2003). Thus, IM in (72) is inserted as head of VP. We can further assume that the subject agreement is checked in the same way it is checked in English, namely in a specifier-head relationship. The IM moves into T in order to check the EPP-feature, but there is no subject with which it can agree in ϕ -features. In this case an expletive *pro* should be merged in Spec,TP, so that the IM in T can value its *uninterpretable* ϕ -features against the interpretable ϕ -features of the expletive.

If the syntactic computation must proceed by phase, the embedded subject in (72) after having checked its Case feature in the lower Spec,TP must pass through the embedded Spec,CP before it reaches its final position in front of the matrix clause. I assume that the subject-DP undergoes topic leftward movement and ends up in the left periphery of the main clause. The landing site of such a long distance movement should be an A'-position. I follow Rizzi (1997) in the assumption that CP includes a number of projections which contain discourse features. In (72) the embedded subject is attracted to the specifier of TopP. We can assume that TopP is above the strong phase CP¹² (cf. Chomsky 2001) and that the movement of the subject to this projection is triggered by the topic feature on the relevant head. The verb will receive default third person singular agreement within CP and the constituent in Spec,TopP, being outside CP, will be inaccessible for agreement checking.

7 Conclusions

This paper has discussed subjunctive complements of PM and IM in B and M. For both constructions a movement analysis has been proposed. It was claimed that the subjunctive complements of PM are ϕ -complete but tenseless weak phases TPs. The embedded subject cannot become inactive until it establishes an Agree operation with the matrix T and checks/values its nominative Case feature. This is on the one hand possible because the complement is a TP and on the other hand necessary because the embedded T is ϕ -complete but tenseless.

¹² Under the view that the complementizer system consists of a number of projections (ForceP, TopicP, FocusP, etc., see Rizzi 1997) it is not clear which one determines phase-hood.

In constructions with IM the subjunctive complement is a strong phase CP. The embedded T is ϕ -complete and tensed, so that the subject-DP can value all relevant formal features within the complement. If movement of the subject-DP takes place, the landing site is an A'-position, which explains the missing agreement between the fronted subject-DP and the IM.

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