Selected Papers from *SinFonIJA 3*

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Edited by

Sabina Halupka-Rešetar, Maja Marković,
Tanja Milićev and Nataša Milićević

CAMBRIDGE
SCHOLARS
PUBLISHING

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This book first published 2012

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

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ISBN (10): 1-4438-4080-7, ISBN (13): 978-1-4438-4080-4

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INTRODUCTION

SABINA HALUPKA-REŠETAR,
MAJA MARKOVIĆ, TANJA MILIĆEV
AND NATAŠA MILIĆEVIĆ

The current volume is a selection of papers presented at the *SinFonIJA 3* conference, held at the University of Novi Sad in October 2010. A wide range of linguistics-related topics was covered on this occasion, and the selection before you represents the variety and quality of research we wish to promote. It aims at upholding sound linguistic theorizing as the basis of natural language analysis and cutting-edge applied-linguistics concerns. In addition to the novel linguistic topics in the fields of syntax, phonology, semantics and natural language processing, the research presented here shows why the assumptions regarding the interfaces of these domains, which we often take for granted, require solid empirical grounding.

The formal rigor and clarity of modern syntactic theory, once again, prove to make an adequate framework for pushing forward our understanding of the various language phenomena. Thus, *When are negative imperatives banned?* by **Željko Bošković** illustrates how a well-known affix hopping analysis (Chomsky 1957), based on the Head Movement Constraint, which is commonly taken to account for the verbal syntax and morphology in English, can be extended to the formation of imperatives in other languages. More precisely, the author offers an account of the observation made by Zeijlstra (2004) regarding the impossibility of negative imperative formation in languages with a negative head marker (X^o). Building on the insights in Miyoshi (2002), Bošković argues that the ban on *true negative imperatives* is the consequence of the negation marker blocking affixation of the imperative suffix to the verb, which in turn means that either the (non-)head status or the (non-)affix status of the imperative marker will determine the availability of true negative imperatives cross-linguistically.

That the current, wide empirical coverage of the syntactic research in fact opens new challenges and uncharted territories is brought up by **Henk van Riemsdijk** in *Multiple X*. This paper outlines all the striking similarities

between adjunct free relative clauses and wh-questions across languages. It also shows that the interpretation of all wh-adjuncts is parallel to that of conditional clauses, and that these constructions allow the occurrence of multiple wh-elements. Following the implications of these observations Van Riemsdijk further suggests that there is an identifiable class of constructions with multiple occurrences of the semantically interdependent indefinite expressions, or multiple X, which includes also comparative and consecutive clauses.

On the tense-less future in Polish by **Joanna Błaszczak, Patrycja Jabłońska, Dorota Klimek-Jankowska** and **Krzysztof Migdalski** takes up the challenge of defining the syntax and semantics of the simple and periphrastic future forms in Polish, extending its main conclusions to facts from Slovenian. The central claim of the paper is that the future constructions in Polish represent a combination of the present tense and perfective aspect features, which are responsible for the derived future time reference.

Pavel Grashchenkov's *Development of TAM categories in Turkic: feeling free in the deterministic system* searches for a consistent account of the grammatical function development of Turkic verbs that behave both as lexical and functional elements. This paper examines the syntactic reanalysis that follows the occurrence of the functional (auxiliary) role of such verbs, as well as their novel semantics. It also addresses the deeper question regarding the nature of the observed change.

On Slovenian demonstrative reinforcers and the internal structure of demonstratives by **Franc Marušič** and **Rok Žaucer** discusses the doubling of the spatio-temporal deictic marker (or, a demonstrative reinforcer), and the case markers. The authors draw comparisons between these facts and similar phenomena in other languages (specifically, Czech and Slovak), suggesting a way of analyzing, at first glance, such a peculiar case of doubling demonstratives.

Teodora Radeva-Bork's *Word order(s) and clitic doubling in Bulgarian* investigates the interaction of the range of possible word orders and direct object clitic doubling, discussing the contexts of both the optional and obligatory reduplication in Bulgarian. The analysis presented here treats all (in)direct objects that co-occur with pronominal clitics as instances of clitic doubling, regardless of the position of the objects. It is also argued that the obligatory vs. optional presence of a doubling clitic in Bulgarian is dependent on the syntactic structure rather than just the specific predicate types.

In the paper entitled *For the property analysis of control constituent - An argument from modal existential wh-constructions* **Radek Šimík** offers

a novel approach to the issue of the mechanism behind the control relation. The author claims that the control constituents should be semantically viewed as properties and, therefore, the control relation requires a semantic resolution. His main argument for this position comes from the modal existential wh-constructions. Pointing out a strong parallelism between obligatorily controlled PRO and wh-expressions, he argues for treating them both as logical lambda-operators.

Sabina Halupka-Rešetar's *Nonfinal information focus in Serbian – some experimental data* challenges the standard minimalist claim that PF has to pronounce the highest member of a nontrivial chain. The analysis put forward in Halupka-Rešetar (2009), which rests, on the one hand, on viewing [+f] as a lexical feature, and on the other hand, on a version of Bošković's (2008) Pronounce Lower Copy, allowing the pronunciation of a lower copy if doing so does not violate any phonological constraints is put to a test by examining the prosodic properties of senteces uttered by native speakers of Serbian, with the goal of corroborating the assumption that non-final information focus needs to be prosodically marked.

The well-know generalization that the second position clitics in Serbian are sensitive to the Intonational Phrase (IP) boundaries is re-examined in **Tanja Milićev** and **Maja Marković**'s *Clitic placement and the properties of the Intonational Phrase in Serbian*. The goals of this paper are to establish the exact set of properties required for a constituent to be realized as an IP in Serbian, and consequently, delay clitic positioning in a clause. Basing their conclusions on the relevant production tests, the authors find that in addition to the specific phonological traits, the clitic-delaying constituents have distinct semantic/pragmatic properties. It is, therefore, their distinct interpretation that sometimes allows the relevant phonological features to be somewhat obliterated in the production/ perception of I- boundaries.

In a session on Natural language processing, which was organized for the first time at *SinFonIJA 3*, there were several issues addressed that illustrate the kind of linguistic challenges the developers of modern technologies in the region have to deal with. **Staša Vujičić Stanković**' s *Named entity recognition in the system for information extraction* discusses the problems related to the Serbian language in the domain of named entity recognition in information extraction. The author proposes a solution to these problems based on the language resources developed for Serbian, using the GATE1 and the Unitex 2 systems.

Prosody prediction in speech synthesis based on regression trees by **Milan Sečujski, Darko Pekar, Dragan Knežević** and **Vladimir Svrkota** examines the possibility of automatic prediction of prosodic parameters,

namely f_0 contour and phonetic segment durations, in the context of text-to-speech synthesis in the Serbian language. The prosodic parameters are predicted using regression trees trained on a speech corpus containing approximately 4 hours of a recorded and annotated speech. The speech corpus annotation contains both phonological and phonetic markers, as well as markers related to prosody (lexical pitch accents, prosodic phrase boundaries and prosodic prominence). The results, in terms of values of objective measures, are shown to be comparable with those reported for other languages.

Milan Gnjatović and **Vlado Delić**'s paper *Attention and linguistic encoding of motion events in human-machine interaction* introduces a computational model of a schematic system of attention in spatial language. It expands upon the previous work – the focus tree computational model of attentional state in task-oriented human-machine interaction (HMI). The study extends the concept of the focus tree with an insight from the cognitive semantics into a dichotomy between two fundamental cognitive functions in language – of the Figure and of the Ground. The paper also discusses the possibility of the application of the model in the field of therapeutic HMI on children with developmental disorders.

References

Bošković , Ž. 2008. On the Clausal and NP-structure of Serbo-Croatian. In *Formal Approaches to Slavic Linguistics: The Toronto Meeting, 2006*, edited by R. Compton et al., 42-75. Ann Arbor, MI: Michigan Slavic Publications.

Chomsky, N. 1957. *Syntactic Structures*. The Hague: Mouton.

Halupka-Rešetar, S. 2009. *Strukturna artikulacija fokusa u engleskom i srpskom jeziku: uporedna analiza strukturalnog i generativnog pristupa.* [*The structural articulation of focus in English and Serbian: a comparative analysis of the structural and the generative approach*.]. Doctoral Dissertation. University of Novi Sad.

Miyoshi, N. 2002. *Negative imperatives and PF merger*. Ms. University of Connecticut, Storrs.

Zeijlstra, H. 2004. *Sentential Negation and Negative Concord*. Doctoral Dissertation. University of Amsterdam.

PART ONE.

SYNTAX, PHONOLOGY AND LANGUAGE ANALYSIS

WHEN ARE NEGATIVE IMPERATIVES BANNED?

ŽELJKO BOŠKOVIĆ

Outline

Zeijlstra (2004) observes that only a subset of the set of languages with a negative marker X^o bans true negative imperatives. This paper shows that the generalization can be deduced under the affix hopping analysis of the ban on negative imperatives, where in languages where the ban holds negation blocks affixation of a null imperative affix to the verb.

1. Ban on negative imperatives and different types of negation

It is well-known that languages differ regarding their treatment of sentential negation. Some languages, for example, Italian and Russian, have X^o negation, where the negation heads a NegP,[1] while other languages, e.g. Icelandic, have adverbial adjunct negation, where negation is adjoined to an independent phrase (e.g. VP). I will refer to this distinction as head vs adjunct negation (see Zeijlstra 2004 for a more extensive language survey and relevant references).

Languages also differ regarding the ban on negative imperatives. Some languages disallow negative imperatives, switching to a different verbal form in the context in question, while other languages allow negative imperatives. Among the languages with independent imperative forms, the ban on negative imperatives, illustrated by Greek (1), holds for Greek, Romanian, Spanish, Italian, Portuguese, Catalan, Sardinian, Hungarian, Hebrew, and Latin. On the other hand, Serbo-Croatian, Slovenian, Bulgarian, Macedonian, Russian, Polish, Czech, Albanian, German, Swedish, Norwegian, Yiddish, Berber, and Basque allow negative imperatives.

[1] In some languages of this type negation may undergo head movement outside of NegP, which I ignore here.

(1) a. *Diavase!*
read.Imp
b. **Den/mi diavase!*
Neg read.Imp
'Don't read!'

Instead of an imperative verb form, Greek uses a subjunctive in a negative imperative context, i.e. as a surrogate imperative.[2]

(2) *Na mi diavazis!*
Subj.Mark Neg read.Subj
'Don't read!'

Zeijlstra (2004:165) makes a very interesting observation that correlates the two cross-linguistic differences noted above (see also Zanuttini 1997). In particular, generalizing Zanuttini's discussion of Romance, Zeijlstra establishes the following generalization.

(3) Only a subset of the set of languages with a negative marker X^o bans true negative imperatives.

In other words, what Zeijlstra observes is that the ban on negative imperatives is found only in X^o negation languages. Indeed, all the ban-on-negative-imperatives languages noted above are head negation languages. Note, however, that we are dealing here with a one-way correlation: not all head negation languages have negative imperatives. In this paper I will show that one particular analysis of the ban on negative imperatives provides a principled explanation why the ban in question is found only in head negation languages. In the next section I discuss the analysis in question, summarizing a couple of arguments for it (since the analysis does not appear to be widely-known). In section 3 I show how the analysis in question captures Zeijlstra's generalization (for relevant discussion, see also Zanuttini 1997; Zeijlstra 2004).

[2] Languages differ with respect to which verbal forms they use as surrogate imperatives. The options are subjunctive, infinitive, indicative, and gerund. For relevant discussion, see especially Zanuttini (1997).

2. The affix hopping analysis of the ban on negative imperatives

There are a number of accounts of the ban on negative imperatives in the literature, (see, e.g., Bošković 2004; Han 1999; Isac & Jakab 2001; Laka 1994; Miyoshi 2002; Rivero 1994; Rivero & Terzi 1995; Tomić 2001; Zanuttini 1994, 1997).

Interestingly, a similar phenomenon is found in English. Just like the languages in question, English has a verbal form that cannot co-occur with negation. Whereas the languages in question disallow negative imperative verbs (I will use Greek as a representative of these languages), English disallows negative finite verbs, more precisely, finite main verbs. (I will refer to them as indicatives.) Like Greek, English switches to another verbal form in the context in question, namely, infinitive.

(4) a. *John not laughed.
b. John did not laugh.

Abstractly, we have the same pattern in both Greek and English. Both languages disallow a particular verbal form to co-occur with negation. In the relevant negative context, they switch to another verbal form. The parallelism between Greek and English is generally not noted in the existing accounts of the ban on negative imperatives, which appear to have nothing to say about it. (That is, they are not readily extendable to the ban on negative indicatives in English.) One exception is Miyoshi (2002), further developed in Bošković (2004), where a uniform account is provided for the ban on negative imperatives in Greek and the ban on negative indicatives in English. This is implemented by extending a particular account of the ban on negative indicatives in English to the ban on negative imperatives in Greek, more precisely, Chomsky's (1957) affix hopping analysis, which was revived recently in Hale and Marantz (1993), Bobaljik (1994, 1995), and Lasnik (1995), and extended to several other phenomena in Bošković (2001a,b). In the recent instantiations, affix hopping, often referred to as PF/morphological merger (I will use the terms interchangeably), is treated as a morphophonological rule that involves merger between an affix and its host in PF under adjacency. Merger/affix hopping is blocked by intervening phonologically realized elements, but not by phonologically null elements such as traces and *pro*. To illustrate the mechanism, consider (5a-c), whose pre-PF merger and *Do*-Support structures are given in (6).

(5) a. John laughed.
b. *John not laughed.
c. John did not laugh.

(6) a. [$_{IP}$ John$_i$ I (ed) [$_{vP}$ t$_i$ laugh]]
b. [$_{IP}$ John$_i$ I (ed) [$_{NegP}$ not [$_{VP}$ t$_i$ laugh]]]

English I is a verbal affix, which must merge with a verbal element in PF under adjacency. The adjacency requirement is not met in (6b) due to the intervening negative head, which blocks PF merger. *Do*-Support, a last resort operation, then takes place to save the stranded affix, deriving (5c). In (6a), the merger is not blocked since no phonologically realized element intervenes between I and the verb. I then merges with the verb, deriving (5a). The crux of the analysis is that indicatives cannot co-occur with negation in English because the co-occurrence results in a violation of the Stranded Affix Filter, which rules out constructions with stranded affixes.

Miyoshi (2002) extends this analysis to the ban on negative imperatives. He proposes that imperatives in languages like Greek contain a functional head, the precise identity of which is not important for our purposes (for Miyoshi, it is an imperative C), which is a PF affix that must merge with a verb under adjacency. Affix hopping can proceed without any problems in (1a), where the verb and the functional head in question, referred to as F, are adjacent. However, in (1b) the negation disrupts the adjacency relation between F and the verb. Affix hopping is then blocked and the example is ruled out due to the presence of a stranded affix, just like (6b).

(7) F *den/mi diavase.*
[+affix]

Greek does not have the language specific rule of *Do*-Support, which English employs in (5c) to save the stranded affix. Instead, Greek uses a different verbal form, namely subjunctive. We can assume either that the affix head F is not present in subjunctive imperatives or that it is supported by the subjunctive marker *na*.[3]

Regarding languages that allow negative imperatives, they either do not have F or, perhaps more plausibly, F is not an affix in such languages. The difference between languages with and those without a ban on negative imperatives is then treated in terms of a rather straightforward

[3] Notice, however, that the subjunctive marker is optional in constructions like (2).

lexical difference regarding the PF status of the imperative head.

Miyoshi provides evidence for the affix hopping analysis of (1) by showing that it also accounts for the often observed difference in clitic placement in imperative and non-imperative contexts. It is well-known that Greek clitics generally precede the verb in indicatives, but follow it in imperatives.

(8) a. *To diavasa.*
it read.Ind
'I read it.'
b. **Diavasa to.*

(9) a. *Diavase to!*
read.Imp it
'Read it!'
b. **To diavase!*

Miyoshi proposes a uniform account of (1) and (9) based on Franks's (1998, 2000) (see also Abels 2001, Bobaljik 1994, 1995, 2002, Bošković 2001a, 2002, Bošković & Franks 2002, Bošković & Nunes 2007, Hiramatsu 2000, Lambova 2001, Landau 2003, Nunes 2004, Pesetsky 1998a,b, Reglero 2004, Stjepanović 2003) proposal that a lower copy of a non-trivial chain can be pronounced instead of the head of the chain iff this is necessary to avoid a PF violation. I will illustrate how the proposal works with respect to the analysis of the basic cliticization pattern in Bulgarian (B) and Macedonian (Mac) from Bošković (2001a). Consider (10).[4]

(10)	a.	*Petko*	*mi*	*go*	*dade.*	B:OK	Mac: OK
		Petko	me.Dat	it.Acc	gave		
		'Petko gave it to me.'					
	b.	*Mi*	*go*	*dade.*		B:*	Mac: OK
	c.	*Dade*	*mi*	*go.*		B: OK	Mac: *

The contrast between Bulgarian and Macedonian (10b) indicates Bulgarian clitics must encliticize, while Macedonian clitics procliticize. Macedonian clitics always precede the verb in the context in question. Bulgarian clitics

[4] I ignore here certain non-finite clauses in Macedonian, which raise additional questions. For relevant discussion, see Bošković (2001a), Caink (1998), Franks (1998, 2000), Franks & King (2000), Legendre (1999), and Tomić (1996, 1997), among others. The works in question also contain a more general discussion of clausal cliticization in Bulgarian and Macedonian.

precede the verb unless preceding it would result in a violation of their enclitic requirement. In that case they follow the verb. This state of affairs can be accounted for under Franks's (1998) proposal that a lower copy of a non-trivial chain can be pronounced instead of the head of the chain iff this is necessary to avoid a PF violation, given that a copy of pronominal clitics is present both above and below the verb (see Bošković 2001a for discussion of the precise position of these copies). This approach straightforwardly captures the generalization that the verb can precede a clitic in Bulgarian only when no other lexical material is located in front of the clitic. Only in this situation will we be able to pronounce the lower copy of the clitic, which is located below the verb. (Pronunciation of the head of the clitic chain in (11b) would lead to a PF violation since the clitic, which must encliticize, cannot be properly prosodically supported.) If there is lexical material preceding the clitic in its raised position, the head of the chain of clitic movement can be, hence must be pronounced.

(11) a. X clitic V ~~clitic~~
b. ~~clitic~~ V clitic

Since in Macedonian nothing goes wrong in PF if the head of the clitic chain is pronounced, the head of the clitic chain, located above the verb, has to be pronounced. As a result, the V-clitic order is underivable in Macedonian.

(12) (X) clitic V ~~clitic~~

The contrast in the acceptability of (10b-c) in Bulgarian and Macedonian, as well as the role of phonology in the possibility of the V-cl order in Bulgarian, is thus straightforwardly captured.

Returning to (8)-(9), Miyoshi (2002) observes that given that a lower member of a non-trivial chain can be pronounced if this is necessary to avoid a PF violation, the affix hopping analysis provides a straightforward account of the V-clitic switch in (9). Assume that imperatives and indicatives in Greek do not differ regarding clitic placement in the syntax. They both have the clitic-V order, with a lower copy of the pronominal clitic following the verb. In indicatives, the higher copy of the clitic can be, hence must be pronounced. On the other hand, in imperatives pronunciation of the higher copy of the clitic would lead to a Stranded Affix Filter violation, i.e. a PF violation, since the clitic disrupts the adjacency between F and V, necessary for F to hop onto the verb. The violation can be avoided if we pronounce a lower copy of the clitic, which follows the verb.

(13) F ~~*to*~~ *diavase to*

Since the verb and F are adjacent in (13), affix hopping can take place. Lower pronunciation of the clitic is licensed in (13), just as in Bulgarian (10c), because it is necessary to avoid a PF violation.[5] The affix hopping analysis thus provides us with a principled account of the clitic-V switch in languages that have a ban on negative imperatives. In fact, the clitic-V switch and the ban on negative imperatives are accounted for in the same way. [6]

In Bošković (2004) I provide an additional argument in favor of the affix hopping analysis. In particular, I show that the affix hopping analysis provides us with a principled account of a peculiar clitic switch in Greek imperatives, noted in Joseph and Philippaki-Warburton (1987), Terzi (1999), and Warburton (1977); more precisely, the fact that the accusative-dative clitic order is available in the postverbal clitic position in imperatives, in contrast to the preverbal clitic position in indicatives, where only the dative-accusative clitic order is possible. I argue that the clitic switch is a PF phenomenon that arises through lower copy pronunciation. More precisely, while the highest position of the clitics, which is pronounced in indicatives, yields the dat-acc order, lower copy pronunciation in imperatives yields the acc-dat order. Here is the gist of the analysis: I argue that, with respect to clitic placement, imperatives are derived just like indicatives in that in the highest syntactic position, the order of clitics in a double object clitic construction is dative-accusative.

---

[5] Bobaljik (1995) and Bošković (2001a) also propose analyses in which a lower copy of X is pronounced in order to prevent X from blocking affix hopping.

[6] The analysis does not posit a two-way correlation between the clitic-V switch and the ban on negative imperatives. Thus, Miyoshi argues that in some Italian surrogate imperatives, which do not contain the F affix, the V-clitic order arises as a result of V-movement. (The same seems to hold for Cypriot Greek indicatives that have V-clitic order, as discussed in Terzi 1999. Note that the accusative-dative clitic switch, discussed directly below, is not expected to occur in constructions in which the V-clitic order arises as a result of V-movement since in such constructions the clitics are pronounced in the highest position (see the discussion below). As shown in Terzi 1999, it indeed does not occur in Cypriot Greek indicatives.) It is also worth noting that in Bošković (2001a) I argue that the affix hopping analysis also leaves room for an F-affix language that has the clitic-V switch but no ban on negative imperatives. (The language in question is Macedonian. See Bošković 2001a for explanation why the presence of the F affix does not make negative imperatives impossible in Macedonian; see also Miyoshi 2002 for an alternative analysis of Macedonian that does not involve affix hopping.)

Under the affix hopping analysis, all we need in order to accomplish clitic switch is that in a lower position the order can be accusative-dative. Since in indicatives the highest copy of the pronominal clitics must be pronounced, we still get only the dative-accusative order in indicatives. On the other hand, since in imperatives lower copies of the pronominal clitics are pronounced for reasons discussed above, we can get the accusative-dative order.[7]

(14) a. dat acc V ~~acc dat~~… (indicatives)
b. ~~dat acc~~ V acc dat… (imperatives)

3. Deducing Zeijlstra's generalization

I now return to Zeijlstra's generalization, demonstrating that it can be straightforwardly captured under the affix hopping analysis of the ban on negative imperatives. We have already seen how the ban on negative imperatives in head negation languages can be captured under this analysis. Furthermore, we have seen that the analysis does not force the ban on all languages of this type; i.e. it leaves room for languages with head negation to differ regarding the ban on negative imperatives. What we need to do now is prevent the ban on negative imperatives from ever applying in adverbial negation languages. This is actually straightforward.

Bobaljik (1994, 1995) gives a number of arguments that adjuncts (i.e. adjoined elements) do not interfere with affix hopping even when they intervene between the elements involved in the merger. To give just one illustration of this, the adjunct *never* in (15)-(16) differs from the negative head in 0)-0) in that it does not block affix hopping. As a result, *Do*-Support does not take place in (15), in contrast to (4). [8]

[7] See Bošković (2004) for details of the analysis; as discussed in this work, the lower copy pronunciation analysis in fact allows for both the acc-dat and the dat-acc order in imperatives, depending on which lower copies of the clitics are activated in PF. Note that the clitic switch is not possible in all languages where clitics are pronounced in a lower position in imperatives. E.g., it is not possible in Spanish. The reader is referred to Bošković (2004) for an account of this difference between Spanish and Greek, where the difference is tied to another independently motivated difference between the two languages, namely the height of verb movement.

[8] While Bobaljik (1994, 1995) simply stipulates the "invisibility" of adjuncts with respect to affix hopping, Bobaljik (2002) and Ochi (1999) offer a deduction of the different behavior of adjoined and non-adjoined elements in this respect. Thus, assuming Lebeaux's (1988) acyclic adjunct insertion and multiple spell-out, Ochi

(15) John never laughed
(16) [$_{IP}$ John$_i$ I (ed) [$_{VP}$ never [$_{VP}$ t$_i$ laugh]]]

Since in adjunct negation languages the negative marker is an adjunct, just like *never* in English, it then follows that languages of this type will not show the ban on negative imperatives. I therefore conclude that the affix hopping analysis deduces Zeijlstra's generalization in its entirety: it allows, but does not force the ban on negative imperatives in head negation languages, and prevents the ban from applying in adjunct negation languages. To the extent that the analysis is successful, it also provides additional evidence for the mechanism of affix hopping.

References

Abels, K. 2001. The predicate cleft construction in Russian. In *Formal Approaches to Slavic Linguistics: The Indiana Meeting 2000*, edited by S. Franks, T. King and M. Yadroff, 1-19. Ann Arbor, MI: Michigan Slavic Publications.

Bobaljik, J. 1994. What does adjacency do?. *MIT Working Papers in Linguistics* 22. Cambridge, Mass.: MITWPL, Department of Linguistics and Philosophy, MIT, 1-32.

—. 1995. *Morphosyntax: The Syntax of Verbal Inflection*. Doctoral dissertation. MIT, Cambridge, Mass.

—. 2002. A-chains at the PF interface: Copies and "covert" movement. *Natural Language and Linguistic Theory* 20, 197-267.

Bošković, Ž. 2001a. *On the Nature of the Syntax-Phonology Interface: Cliticization and Related Phenomena.* Amsterdam: Elsevier Science.

—. 2001b. PF Merger in Scandinavian: Stylistic Fronting and Object Shift. *Working Papers in Scandinavian Syntax* 68, 75-115.

—. 2002. On multiple wh-fronting. *Linguistic Inquiry* 33, 351-383.

—. 2004. On the clitic switch in Greek imperatives. In *Balkan syntax and semantics*, edited by O. Mišeska Tomić, 269-291. Amsterdam: John Benjamins.

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argues that the reason why adjuncts do not interfere with affix hopping is that they can be acyclically inserted into the structure after the structure, with the elements involved in affix hopping adjacent to each other, has already been sent to PF. Affix hopping/morphological merger is then licensed derivationally, at the point when the relevant elements are adjacent (and before the adjunct is acyclically inserted into the structure). I refer the reader to Ochi (1999) for independent evidence for this analysis.

Bošković, Ž. and S. Franks. 2002. Phonology-syntax interactions in South Slavic. *Balkanistica* 15, 49-74.

Bošković, Ž. and J. Nunes. 2007. The copy theory of movement: A view from PF. In *The copy theory of movement on the PF side*, edited by N. Corver and J. Nunes, 13-74. Amsterdam: John Benjamins.

Caink, A. 1998. *The Lexical Interface: Closed Class Items in South Slavic and English*. Doctoral dissertation. University of Durham.

Chomsky, N. 1957. *Syntactic Structures*. The Hague: Mouton.

Franks, S. 1998. Clitics in Slavic. Paper presented at the Comparative Slavic Morphosyntax Workshop, Spencer, Indiana.

—. 2000. Clitics at the interface: An introduction to *Clitic Phenomena in European Languages.* In *Clitic Phenomena in European Languages*, edited by F. Beukema and M. den Dikken, 1-46. Amsterdam: John Benjamins.

Franks, S. and T. King. 2000. *A handbook of Slavic Clitics.* Oxford: Oxford University Press.

Halle, M. and A. Marantz. 1993. Distributed morphology and the pieces of inflection. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, edited by K. Hale and S. J. Keyser, 111-176. Cambridge, Mass.: MIT Press.

Han, C.-H. 1999. Cross-linguistic variation in the compatibility of negation and imperatives. *Proceedings of the West Coast Conference on Formal Linguistics* 17. Stanford, Calif.: CSLI Publications, 1-17.

Hiramatsu, K. 2000. *Accessing Linguistic Competence: Evidence from Children's and Adults' Acceptability Judgments*. Doctoral dissertation. University of Connecticut, Storrs.

Isac, D. and E. Jakab. 2001. A unified syntactic analysis of Balkan imperatives with distinctive morphology. Paper presented at the Acme Balkanica Conference, Concordia University, Montreal.

Joseph, B. and I. Philippaki-Warburton. 1987. *Modern Greek*. London: Croom Helm.

Laka, I. 1994. *On the Syntax of Negation.* New York: Garland.

Lambova, M. 2001. On A'-movements in Bulgarian and their interaction. *The Linguistic Review* 18, 327-374.

Landau, I. 2003. Modular recoverability: Chain resolution in Hebrew V(P)-fronting. Ms. Beer-Sheva, Israel.

Lasnik, H. 1995. Verbal morphology: *Syntactic Structures* meets the Minimalist Program. In *Evolution and Revolution in Linguistic Theory: Essays in Honor of Carlos Otero*, edited by H. Campos and P. Kempchinsky, 251-275. Washington, D. C.: Georgetown University Press.

Lebeaux, D. 1988. *Language acquisition and the form of the grammar*. Doctoral dissertation. University of Massachusetts, Amherst.

Legendre, G. 1999. Morphological and prosodic alignment at work: The case of South-Slavic clitics. *Proceedings of the West Coast Conference on Formal Linguistics* 17. Stanford, Calif: CSLI Publications, 436-450.

Nunes, J. 2004. *Linearization of chains and sideward movement.* Cambridge, Mass.: MIT Press.

Miyoshi, N. 2002. Negative imperatives and PF merger. Ms. University of Connecticut, Storrs.

Ochi, M. 1999. Multiple spell-out and PF adjacency. *Proceedings of NELS* 29. University of Massachusetts, Amherst: GLSA, 293-306.

Pesetsky, D. 1998a. Optimality theory and syntax: Movement and pronunciation. In *Optimality Theory: An Overview*, edited by D. Archangeli and T. Langendoen, 134-170. Malden: Blackwell.

—. 1998b. Some optimality principles of sentence pronunciation. In *Is the Best Good Enough?*, edited by P. Barbosa et al., 337-383. Cambridge, Mass.: MIT Press and MITWPL, Department of Linguistics and Philosophy, MIT.

Reglero, L. 2004. *On A' dependencies in Spanish and Basque*. Doctoral dissertation. University of Connecticut, Storrs.

Rivero, M. L. 1994. Negation, imperatives, and Wackernagel effects. *Rivista di Linguistica* 6, 39-66.

Rivero, M. L. and A. Terzi. 1995. Imperatives, verb movement, and logical mood. *Journal of Linguistics* 31, 301-332.

Stjepanović, S. 2003. A word-order paradox resolved by copy deletion at PF. *Linguistic Variation Yearbook* 3, 139-177.

Terzi, A. 1999. Clitic combinations, their hosts, and their ordering. *Natural Language and Linguistics Theory* 17, 85-121.

Tomić, Mišeska O. 1996. The Balkan Slavic clausal clitics. *Natural Language and Linguistic Theory* 14, 811-872.

—. 1997. Non-first as a default clitic position. *Journal of Slavic Linguistics* 5, 1-23.

—. 2001. Negation and imperatives. In *Current issues in formal Slavic linguistics*, edited by G. Zybatow et al., 159-168. Frankfurt am Main: Peter Lang.

Warburton, I. 1977. Modern Greek clitic pronouns and the "Surface Structure Constraint" hypothesis. *Journal of Linguistics* 13, 259-181.

Zanuttini, R. 1994. Speculations on negative imperatives. *Rivista di Linguistica* 6, 119-142.

—. 1997. *Negation and Clausal Structure: A Comparative Study of Romance Languages.* Oxford: Oxford University Press.

Zeijlstra, H. 2004. *Sentential negation and negative concord*. Doctoral dissertation. University of Amsterdam.

SOME OBSERVATIONS ON MULTIPLE X

HENK VAN RIEMSDIJK

Outline

The point of departure for the present article is the question of whether adjunct free relatives and adjunct questions can or should be distinguished. It is suggested that there are no strong grounds for distinguishing them. Part of the discussion involves the issue of multiple wh structures. A link between wh-adjuncts and conditional clauses is suggested, raising the question whether multiple wh generalizes to multiple X, where X could include multiple targets in conditionals as well as multiple degree phrases in comparative and consecutive clauses. There is some evidence that the answer should be yes, but the jury is still out.

1. Multiple puzzles

The goal of this paper is a modest one, viz. to formulate a question that has bothered me for a considerable time and to place it in a somewhat wider context in the hope of thereby clarifying a few issues and, hopefully, improve the prospects for a solution that remains to be found. More specifically, I propose to explore, in section 2, the boundaries between indirect questions and adjunct free relatives (Van Riemsdijk, 2006:360f). In section 3, I discuss the absence of multiple wh in some languages and suggest that conjoined wh-constructions may constitute an alternative strategy to express multiple X. Section 4 explores the range of constructions in which multiple X appears to manifest itself, and section 5 adds yet another construction, comparative correlatives, to this inventory.

2. Free relative adjuncts or indirect questions?

Most discussions of free relative clauses (henceforth FRs) center around FRs in argument positions. Indeed, all the important questions surrounding FRs such as categorial and case matching arise in FRs of this

kind. Observe, however, that in many cases what looks like a FR shows up in a non-argument, that is in an adjunct position:

(1) Whatever you do, don't cross the road
(2) Whenever you want to leave, just tell me

In both examples we appear to have the free choice interpretation typical of (the universal subtype of) FRs. The fact that the wh-word in these examples carries the suffix *–ever* reinforces this conclusion as *–ever* does not occur in questions, modulo some marginal exceptions such as *whatever are you talking about?* In contrast with *–ever* there are other wh-suffixes that are typically found with questions and not in FRs such as *the hell* and *the fuck*:

(3) a. I wonder what the hell they will tell me
b. Have you got any idea who the fuck this is?
(4) a. *I tend to eat what the hell they serve me
b. *I will talk to who the fuck I want
(5) a. *What the hell you do, don't cross the road
b. *When the fuck you want to leave, just tell me

The presumed adjunct free relatives in (5) pattern with the standard FRs in (4) and not with the embedded questions in (3).

Unfortunately, this is not all there is to say about this problem. There is another property that is generally attributed to questions and not to FRs: multiple wh. Indeed, it appears that presumed adjunct FRs such as those in (1/2) can be constructed with multiple wh:

(6) Whatever book you buy in whatever store, you always end up paying too much
(7) Whenever you want to buy whoever a birthday present, you never know what to get

The interpretations of such examples is very similar to the typical pair-list readings familiar from multiple wh-questions, except that here we have a pairing of free choices: it does not matter what book you buy, and it does not matter in what bookstore you buy it, you end up paying too much. That is, once you have made a choice out of the set of possible books, and once you have chosen a store from the set of possible stores, the resulting pairing will lead to your spending more than you should or want to spend.

There is, however, a quite plausible reason why multiple wh does not occur in standard FRs, as shown in the following examples:

(8) a. I wonder who danced with whom
b. *I met who danced with whom

It is generally agreed that in a simple standard FR the wh-word has a double function. On the one hand it plays a role in the semantics of the relative clause, as regular relative pronouns do, and on the other hand it plays a role in the matrix clause, as the head of a headed relative clause tends to do:

(9) a. I met the girl who danced with Joe
b. I met who Joe danced with

In (9a), *the girl* is the object of *met*, and *who* is the subject of *dance*. In (9b), however, *who* is both the object of *met* and the object of the preposition *with*. That is, it does double duty. This much is uncontroversial, though the proper treatment of such sharing phenomena remain somewhat controversial (cf. Van Riemsdijk, 2006 and references cited there).

Returning now to (8b), the problem is what the status of the second wh-word could possibly be. If it is only the first *who* that is shared with the matrix clause, then there is no conceivable way in which the second wh-word *whom* could be either interpreted as a question word or as a relative pronoun. The question word interpretation does not make any sense anyway, since we are looking at a FR. And we independently know that headed relative clauses with multiple wh-words do not exist. If we tried to force the issue, we would have to assume that the wh-word in situ could somehow undergo the absorption process typical of multiple wh-questions (cf. Dayal, 2006 for extensive discussion). But then this would presuppose that absorption (normally thought of as covert movement or some other process in LF) results in a syntactic object that can be shared by the matrix structure. In the case of (8b) this would result in a meaning roughly corresponding to 'I met the pair of persons x and y such that x danced with y'. But both x and y would be represented by the single wh-word *who*. That would imply a kind of across-the-board movement of both the subject *who* and the prepositional *who* into the Spec, CP position of the relative clause, clearly an impossibility.

I conclude from these considerations that it is the absence of sharing and the absence of ATB-movement in examples like (6/7) that permits the

multiple wh property. Hence we can still maintain the possibility that such examples are adjunct FRs and not indirect questions.

There are other problems for the adjunct FR analysis, however. Consider the fact that *whether* can also be used to introduce semantically similar adjuncts:

(10) Whether you believe it or not, it's going to rain
(11) Whether or not he has enough money isn't the issue

The difference between these two examples is that in (11) the wh-clause introduced by *whether* is the subject of the matrix clause while in (10) the *whether*-clause is an adjunct. Indeed the matrix predicate in (11) is one that typically takes an indirect question as a subject. A predicate that typically does not, yields an ungrammatical result with a *whether*-clause, as shown in (12).

(12) *Whether or not he has enough money is a dubious fact

In (10) on the other hand, there is no such sensitivity to the choice of the matrix predicate. Put differently, the matrix predicate must be saturated independently of the adjunct.

Suppose we take this to mean that (10) can still be an (adjunct) FR, we must then ask again why *whether* cannot show up in regular FRs. Or can it? Ostensibly it cannot. That is, every time a *whether*-clause is selected by some matrix predicate, we call it an indirect question. That makes sense to the extent that the interpretation of *whether*-questions differs from that of FRs in at least one crucial respect. FRs are either definite (*I ate what you prepared – what* is 'the (food) thing(s) that you prepared) or free choice universals (*I will eat whatever you prepare – whatever* means anything that you happen to prepare). *Whether (or not)* does not fit either of these two meanings in any obvious way.

Adjunct FRs belong to the free choice subcase of FRs. Might we not say, then, that *whether* is special because, being the element that introduces Yes/No questions, the choice is limited to two options but is otherwise as free as can be. So we again find ourselves in a position where it is not clear at all whether at the level of adjuncts there is any systematic distinction between questions and FRs. It is as if the distinction which, in selected positions, is clear enough, is neutralized in adjunct positions.

This suspicion is reinforced when we consider what type of adjuncts we are actually talking about. In many cases these adjuncts appear to be very close to conditionals. This is indeed suggested by the fact that the

word *if* occurs both in conditionals and in questions. The generalization is stated explicitly in Bhatt and Pancheva (2006):

(13) Interrogative adjunct clauses are interpreted as conditionals
(= Bhatt and Pancheva, 2006:(42))

Many authors have contributed to this generalization, see their article for references. To illustrate, take example (2) above. This example is easily paraphrasable as (13).

(14) If (at any time) you want to leave, just tell me

If this line of reasoning is on the right track, then it should not come as a surprise that conditional adjuncts of this type can also be 'multiple' in the sense that the computation to determine whether the condition is met involves more than one target. Take an example like the following.

(15) a. If I come across any article on Lezgian in any linguistics journal, I get very excited
b. If you want to drink any alcoholic beverage in any city of Pakistan, you had better do so in a private home with the curtains closed

Clearly what gets me excited in (15a) is not any old article on Lezgian, nor an arbitrary article in a linguistics journal, but the combination, that is, an article in a linguistics journal that discusses Lezgian. Similarly, the caution expressed in (15b) holds for the combination of alcoholic beverages and cities in Pakistan, not for non-alcoholic beverages, and not for cities in many other countries. Without venturing any thoughts on how to formalize this, it seems quite clear that combining two noun phrases in a conditional clause in this way is essentially the same thing as combining two (or more) wh-phrases by absorption in multiple questions.

If the above considerations are on the right track, they raise a number of questions about what does and what does not belong in the realm of what we may call 'multiple X', in other words constructions in which more than one phrase constitutes the target for the calculation of the values that must be obtained in order for some condition or question to hold in a significant way. These are predominantly semantic questions, which I should and will leave to semanticists to answer. My sole purpose here is to contribute a few syntactic observations that may be useful in drawing the

lines of what does and what does not belong to the species 'multiple X'. This is what I will take up in the next section.

3. Absence of multiple wh and alternative strategies

Some languages, such as Italian, lack the possibility of using the multiple wh strategy, see (2008) for discussion:

(16) **Non so qual libro ho comprato dove*
non I-know which book I-have bought where
'I don't know which book I bought where'

(17) **Quando lo hai trovato dove, questo anello?*
when it you-have found where, this ring
'When did you find it where, this ring?'

There is, however, an alternative strategy that such languages can use to produce the same effect: conjoined *wh* (example from Haida and Repp (to appear)).

(18) *Quando e dove esci normalmente?*
when and where you-get-out normally
'When and where do you normally get out?'

(19) *Quando e dove lo hai trovato, questo anello?*
when and where it you-have found, this ring
'When and where did you find it, this ring?'

Note that the use of this strategy is not limited to languages that lack multiple wh constructions such as Italian. English also likes to use conjoined *wh*-phrases. Note further that Italian FRs differ in other ways from Germanic ones (cf. Caponigro, 2002, 2003):

(20) *C' è chi dice sempre si*
there is who says always yes
'There is someone/are people who always say(s) yes'

(21) *Non aveva dove nascondersi in caso di pericolo*
not he-had where hide in case of danger
'He did not have anyplace to hide in case of danger'

The difference appears to be that these FRs have an essentially indefinite interpretation, as opposed to FRs of the Germanic kind, as discussed briefly in section 2 above. Other languages that are like Italian (according to Caponigro) include Spanish, Portuguese, French, Romanian, Russian, Serbo-Croatian, Bulgarian, Hungarian, Modern Greek, Modern Hebrew, and Yiddish. It is tempting to suppose that this property is somehow related to the (non-)occurrence of multiple questions. This issue must unfortunately be relegated to future research.

Turning back to the more central topic of this paper, is it possible to use the conjoined wh strategy also in adjunct FRs?

(22) To whichever doctor you go in this country and with whatever type of ailment, you are likely to be wrongly diagnosed and ripped off

(23) You will learn to become a food detective and control what and when you eat

(fromWhitman, 2005:73 ex (87))

(22) is a typical FR adjunct, (23), however, is interesting because it appears to be at least in part a selected FR in that *what* is the object of *control*. And the *when* part may well be a selected FR as well to the extent that the meaning approximates *control at what time you eat / control the time at which you eat*. Or could this be a case of a conjoined adjunct question? The question may simply be the wrong question. As suggested at the end of section 2, there may not be any real difference between adjunct FRs and adjunct questions.

4. Towards multiple X

There are, of course, many constructions that the general term 'multiple X' could apply to. Take, for example, the fact that (headed) relative clauses can take multiple heads, as in:

(24) We tend to team up boys_i with girls_j in our school [that have a high IQ]$_{i+j}$