

CONTENTS

| | |
|--|-----------|
| Preface | ix |
| 1. Introduction | 1 |
| 1.1 Theoretical and empirical scope of this volume..... | 1 |
| 1.2 Outline..... | 5 |
| 2. Serbo-Croatian Second Position Cliticization: Syntax and/or Phonology? | 7 |
| 2.1 Approaches to Second Position cliticization in Serbo-Croatian..... | 8 |
| 2.2 Syntactic accounts of second-position cliticization..... | 10 |
| 2.2.1 The weak syntax account: Prosodic Inversion..... | 11 |
| 2.2.1.1 Syntactic mobility of clitic hosts..... | 11 |
| 2.2.1.2 Complex PP splits..... | 19 |
| 2.2.1.3 Predicate fronting..... | 21 |
| 2.2.1.4 <i>Li</i> -constructions..... | 26 |
| 2.2.2 The strong syntax approach..... | 36 |
| 2.2.2.1 Two types of strong accounts..... | 37 |
| 2.2.2.2 Empirical evidence against the strong syntax approach..... | 40 |
| 2.3 Phonological approaches to second position cliticization..... | 75 |
| 2.3.1 The strong PF approach: Move/insert clitics in PF..... | 75 |
| 2.3.2 The weak phonology account: filtering out ungrammatical constructions at PF..... | 80 |
| 2.4 Concluding remarks..... | 93 |
| 3. More on Second Position Clitics: Pronunciation of Non-trivial Chains | 97 |
| 3.1 Pronunciation of non-trivial chains and the copy theory of movement..... | 98 |
| 3.1.1 Multiple wh-fronting..... | 100 |
| 3.1.1.1 The <i>what-what</i> construction..... | 100 |
| 3.1.1.2 Echo wh-phrases in multiple questions in Romanian..... | 107 |
| 3.1.1.3 Romanian echo wh-phrases within islands..... | 113 |
| 3.1.2 Double-auxiliary constructions in child English..... | 116 |
| 3.1.3 Object shift in Scandinavian..... | 118 |
| 3.1.4 Syllabic contraction with Romanian clitics..... | 121 |
| 3.2 A phonology/syntax mismatch: Serbo-Croatian <i>je</i> | 125 |
| 3.3 Other consequences of the pronounce-a-copy analysis for Serbo-Croatian clitic placement..... | 131 |
| 3.3.1 Some optional movements become obligatory..... | 132 |

| | |
|---|------------|
| 3.3.2 Strong auxiliaries in the pronunciation-of-a-lower-copy analysis..... | 141 |
| 3.3.3 Clitics in multiple questions..... | 143 |
| 3.4 Slovenian clitics..... | 151 |
| 3.5 Polish clitics..... | 168 |
| 3.6 The v-2 effect in Germanic..... | 172 |
| 4. Bulgarian and Macedonian Clitics..... | 179 |
| 4.1 Pronominal clitics..... | 180 |
| 4.2 Auxiliary clitics..... | 188 |
| 4.3 <i>Li</i> | 197 |
| 4.3.1 Clitic placement in unmarked yes-no questions involving <i>li</i> | 199 |
| 4.3.1.1 Heavy hosts..... | 206 |
| 4.3.1.2 Stress assignment in <i>li</i> -constructions..... | 219 |
| 4.3.1.3 An adjacency effect..... | 222 |
| 4.3.1.4 <i>Li</i> and topics..... | 224 |
| 4.3.2 The focus- <i>li</i> construction..... | 226 |
| 4.3.2.1 Focus movement..... | 227 |
| 4.3.2.2 The head-movement analysis..... | 232 |
| 4.3.2.3 The scattered deletion analysis..... | 238 |
| 4.3.2.4 <i>Li</i> as a focal inflection..... | 239 |
| 4.3.2.5 Stylistic fronting in Icelandic..... | 249 |
| 4.4 Concluding remarks..... | 253 |
| 4.5 Appendix A: Second position clitics on Macedonian..... | 256 |
| 4.6 Appendix B: Multiple Spell-out..... | 266 |
| 4.6.1 Cliticization in coordinate structures in Bulgarian..... | 266 |
| 4.6.2 Object shift in Scandinavian revisited..... | 269 |
| 4.6.3 Negation in Romance..... | 277 |
| 5. Conclusion..... | 283 |
| References..... | 285 |
| Index..... | 309 |

PREFACE

I started tackling the topic of Serbo-Croatian auxiliary clitics and the second position effect in 1994. After a few years off, my interests in the topic, now extended to all clausal clitics in all South Slavic languages as well as more general theoretical issues concerning the nature of the syntax-phonology interface, was renewed in 1997. The results of the last few years of my research on these topics are reported in this volume.

The research was also presented in seminars at the University of Connecticut (2000) and the 5th Central European Summer School in Generative Grammar held in Debrecen (1998), in talks at University of Novi Sad (1998), Cornell University (1999), City University of New York (2000), Université de Paris 8 (2000), and the University of Maryland (2000), and at the conferences European Society for the Study of English at Layos Kossuth University in Debrecen (1997), Formal Approaches to South Slavic and Balkan Languages at Plovdiv University (with Steven Franks, 1999), and Formal Approaches to Slavic Linguistics at Indiana University (2000). I am grateful to my students and audiences for insightful comments and thought-provoking questions.

For valuable comments on this work, special thanks are due to Klaus Abels, Howard Lasnik, Cedric Boeckx, Wayles Browne, Sandra Stjepanović, Andrea Calabrese, Adolfo Ausín, anonymous reviewers, and especially Steven Franks. Stimulating discussions with him and his detailed comments on the entire manuscript have greatly improved this work.

For help with judgments, I am grateful to Penka Stateva, Mariana Lambova, Roumyana Izvorski, Iliyana Krapova (Bulgarian), Johanna Barddal (Icelandic), Olga Mišeska Tomić (Macedonian), Sandra Stjepanović, Saša Vukić, Nadira Aljović, Ljiljana Progovac (Serbo-Croatian), Alexander Grosu, Ileana Comorovski, Alexandra Cornilescu, Larisa Avram, Dana Isac, Gabriela Bulancea (Romanian), Arthur Stepanov (Russian), Gaspar Ilc (Slovenian), Adolfo Ausín, Luisa Marti, Emma Ticio, Lara Reglero, and Javier Martín-González (Spanish). I apologize to anyone I have unintentionally forgotten.

Parts of chapter two appeared in Bošković (2000b). I thank John Benjamins Publishing Company for granting permission to use this material.

For extensive assistance in the final preparation of the manuscript, I am grateful to Michèle Bacholle and especially Cedric Boeckx. I also thank Michèle for her patience and support.

Research reported here was supported in part by grants from the University of Connecticut and the International Research and Exchanges Board, with funds provided by the US Department of State (Title VIII program) and the National Endowment for Humanities. None of these organizations is responsible for the views expressed.

1

INTRODUCTION

1.1. THEORETICAL AND EMPIRICAL SCOPE OF THIS VOLUME

The theoretical domain of investigation of this volume is the nature of the syntax-phonology interface. The empirical domain of investigation is clausal cliticization in South Slavic, namely Serbo-Croatian (SC), Slovenian, Bulgarian, and Macedonian. The volume also contains a discussion of Polish clitics, as well as several other phenomena that turn out to raise theoretical issues related to those involved in South Slavic cliticization, namely, multiple wh-fronting in Slavic and Romanian, Germanic V-2, object shift and stylistic fronting in Scandinavian, and negation in Romance.

The volume investigates a number of theoretical issues concerning the syntax-phonology interface. The central question is whether movement, a typical syntactic operation, can apply in the phonology. This is appropriate given that South Slavic cliticization has been argued by a number of authors to require positing PF movement. In fact, some of the strongest arguments for PF movement ever offered in the literature are based on South Slavic cliticization. The arguments are re-evaluated in this work. I argue against the possibility of PF movement. I show that PF can affect word order, but not through actual PF movement. More precisely, I show that PF affects word order by determining which copy of a non-trivial chain is pronounced and through a filtering effect on the output of the syntax. This is the central theoretical claim of this work.

In addition to appealing to PF movement, literature on South Slavic cliticization contains a number of non-standard claims concerning the nature of the syntax-phonology interface. Among other things, South Slavic cliticization has been argued to provide evidence for the necessity of look-ahead from the syntax to the phonology in derivational models in which syntax feeds

2 *On the Nature of the Syntax-Phonology Interface*

phonology, as well as the necessity of a co-presence, bi-directional model in which the phonology can feed information to the syntax. South Slavic cliticization is also standardly assumed to involve rightward movement, which is disallowed in Kayne's (1994) system. I show that all the relevant facts concerning South Slavic cliticization can be accounted for while maintaining the more or less standard picture in which syntax derivationally feeds phonology and does its job without caring about the needs of the phonology, with the operation Move applying only in the syntax and in accordance with Kayne's (1994) Linear Correspondence Axiom, thus eliminating very serious challenges to this conception of the grammar. Furthermore, arguments are adduced from various sources (more precisely, South Slavic cliticization, Scandinavian object shift, and Romance negation) for the multiple spell-out model, in which the syntax sends information to the phonology throughout the derivation, i.e. at more than one point. The final picture we end up with is strongly derivational and thus represents a serious challenge to non-derivational theories such as Optimality Theory.

The volume also investigates in depth a number of issues concerning cliticization itself. Some of the issues considered concern the structural representation and placement of clitics and the nature of clitic clustering. The volume also provides an account of the second position effect. Throughout the volume, an attempt is made to tease apart the role of syntax and phonology in cliticization and the second position phenomenon.

South Slavic languages, and Slavic in general, are a perfect "laboratory" for investigating cliticization. They have very complex clitic systems, much more complex than the clitic systems of, for example, Romance and Germanic languages. Their clitic systems involve pronominal, auxiliary, sentential particles (e.g. complementizers), negative, prepositional, and adverbial clitics.¹ They have both clausal and NP clitics. (See (1g) for the latter.)²

- (1) a. On *je* zaspal. (Slovenian)
he is fallen-asleep
'He fell asleep.'
- b. Petko *mi go* dade včera. (Bulgarian)
Petko me.dat it.acc gave yesterday

¹The properties enumerated here (the same holds for the discussion below) do not necessarily hold for all South Slavic languages. If a particular property is attested in the clitic system of at least one South Slavic language it is listed here as a property of South Slavic. See the following chapters for discussion of how each South Slavic language fares with respect to the properties discussed here and for references where these properties are discussed in the literature. For an excellent comprehensive survey of clitic systems in Slavic languages and the relevant literature, see Franks and King (2000). For description of the syntax, morphology, and phonology of individual Slavic languages, see Comrie and Corbett (1993).

²The clitics are given in italics. All the languages under consideration are very rich morphologically. Throughout the volume, I give only necessary inflection in glosses. Verbal inflection in pro-drop sentences is reflected in translations.

- ‘Petko gave it to me yesterday.’
- c. *Voli li ona njega?* (SC)
 loves Q she him
 ‘Does she love him?’
- d. *Jovan ne voli Anu* (SC)
 Jovan not loves Ana
 ‘Jovan does not love Ana.’
- e. *Ona živi u Londonu.* (SC)
 she lives in London
 ‘She lives in London.’
- f. *Ivana e većē pročela knjigata.* (Bulgarian)
 Ivana is already read book-the
 ‘Ivana has already read the book.’
- g. *žena mi* (Macedonian)
 wife me.dat
 ‘my wife’

In this work I focus on clausal clitics, in particular, pronominal, auxiliary, and complementizer clitics.

South Slavic clitic systems also involve clitic climbing operations out of finite clauses (see (2a)) and several interesting exceptions to the clitic clustering of clause-mate clitics (2b) and the usual pattern of order of clitics within the clitic cluster (cf. the position of the auxiliary in (2c) and (2d)). They also allow eccentricities such as (2e), where a clitic splits the first and the last name. Such constructions have led to positing PF movement operations under the assumption that syntax cannot accomplish the split illustrated in (2e).

- (2) a. *?Milan ga želi da vidi.* (SC)
 Milan him wants that sees
 ‘Milan wants to see him.’
- b. *?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.’
- c. *Ona mu ga je predstavila.*
 she him.dat him.acc is introduced
 ‘She introduced him to him.’
- d. *Oni su mu ga predstavili.*
 they are him.dat him.acc introduced
 ‘They introduced him to him.’

4 *On the Nature of the Syntax-Phonology Interface*

- e. Lava *sam* Tolstoja čitala.
Leo.acc am Tolstoi.acc read
'Leo Tolstoi, I read.'

South Slavic languages have both second position clitics and verbal clitics. They also attest interesting departures from the two major clitic types. Thus, the second position clitic languages Slovenian and SC sometimes allow their clitics to start a sentence or follow a pause. (SC actually does not allow the former.) Thus, Slovenian, normally a second position clitic language, as illustrated by the contrast between (3a-b) and (3c) (the clitics are located in the second position of their clause in (3a-b), but not in (3c)), allows (3d), where the clitics are sentence initial.

- (3) a. Hvalil *se ji je*.
praised self.acc her.dat is
'He praised himself to her.'
b. da *se ji je* hvalil.
that self.acc her.dat is praised
c. *da hvalil *se ji je*.
d. *Se ji je* hvalil.

Bulgarian clitics, which are considered verbal clitics because they must be adjacent to the following verb (see (4a)), actually encliticize to the element preceding them. As a result, clitics in Bulgarian cannot be sentence initial.

- (4) a. Petko *mi go* (*včera) dade.
Petko me.dat it.acc yesterday gave
'Petko gave it to me yesterday.'
b. **Mi go* dade Petko.
c. Včera *mi go* dade Petko.

Macedonian clitics generally behave like typical verbal clitics that procliticize to the following verb. Thus, in contrast to Bulgarian, clitics in Macedonian can occur sentence initially.

- (5) a. Petko *mi go* (*včera) dade.
Petko me.dat it.acc yesterday gave
'Petko gave it to me yesterday.'
b. *Mi go* dade Petko.

However, the language also has a remnant of the second position effect. More precisely, clitics that

in the environment illustrated in (5) function as verbal clitics of the Romance type function as second position clitics in the environment shown in (6), as illustrated by the contrast between (6a) and (6b-c).

- (6) a. Mil *mi e* Petko.
 dear me.dat is Petko
 ‘Petko is dear to me.’
 b. **Mi e* mil Petko.
 c. *Petko mil *mi e*.

The language thus exhibits a complex interaction between the second position and verbal clitic systems.

The above discussion is a brief illustration of the complexity of South Slavic clitic systems. It is my hope that conclusions concerning the nature of cliticization drawn in this work based on South Slavic clitic systems will be extendable to languages with simpler clitic systems.

1.2. OUTLINE

Chapter two examines the second position clitic effect based on SC. I argue that the second position clitic effect is phonological in nature, but that clitics and clitic hosts are placed in their surface positions in the syntax. A mixed syntax-phonology account of SC second position cliticization is proposed in which clitics and their hosts are indeed placed in their surface positions in the syntax, but the second position effect follows from phonological requirements on clitics that are instantiated through a filtering effect of the phonology on the syntax. (This is shown to be one of the ways in which PF affects word order without actual application of the operation Move.) I also show that a number of non-standard claims concerning the nature of the syntax-phonology interface that were put forward in the literature often crucially based on SC second position cliticization do not receive any support from second position cliticization in SC: contrary to what has previously been argued in the literature, second position cliticization in SC does not provide empirical support for the possibility of movement in the phonology, it does not require look-ahead from the syntax to the phonology (in a derivational model in which syntax feeds phonology), and it does not provide evidence for the necessity of a co-presence, bi-directional model in which the phonology can feed information to the syntax.

The discussion in chapter three is based on a theoretical mechanism by means of which phonology affects word order without actual application of the operation Move, namely through determining which copy of a non-trivial chain created through syntactic movement is to be left active at the PF interface. It is shown based on a variety of sources that PF sometimes forces

pronunciation of lower copies of non-trivial chains. I then show how the mechanism of pronunciation of lower copies can help us explain a number of otherwise puzzling properties of SC clitic placement, including the mysterious contrast in the placement of the third person singular past tense auxiliary and other auxiliary clitics within the clitic cluster in SC, illustrated in (2c-d). In this chapter I also discuss Slovenian and Polish clitics. I show that all differences in clitic placement among the languages in question are a result of a few very simple, independently motivated differences in the phonological properties of clitics in these languages. The syntax of clitics and elements relevant to clitic placement is argued to be the same in all the languages in question. I conclude the discussion in this chapter by showing that the account of the second position clitic effect proposed in chapter two can be profitably extended to the Germanic V-2 effect, which is argued to be phonological in nature, on a par with the clitic second effect.

Chapter four examines cliticization in Bulgarian and Macedonian, which has given rise to some of the strongest arguments for PF movement in the literature. Special attention is devoted to the complementizer clitic *li*, which can be hosted by elements that are immobile in the syntax, a fact that has been used as an argument that PF movement can provide a host for *li*. I show that given the mechanism of pronunciation of lower copies, all the relevant facts concerning cliticization in Bulgarian and Macedonian can be accounted for without appealing to PF movement. I also show that we can account for the order of clitics within the clitic cluster in these two languages without assuming rightward head adjunction, as is standardly done in the literature. Showing this will lead me to specific conclusions concerning the structural representation of clitics, which are meant to hold crosslinguistically.

Chapter four ends with two appendices. The first appendix examines the contexts in which Macedonian clitics function as second position clitics and makes a proposal how to capture the interaction between verbal procliticization and second position encliticization in this language. The second appendix gives several arguments for multiple spell-out based on Bulgarian cliticization, Scandinavian object shift, and Romance negation.

Chapter five is the conclusion.

2

SERBO-CROATIAN SECOND POSITION CLITICIZATION: SYNTAX AND/OR PHONOLOGY?

Second position cliticization has attracted a great deal of attention among syntacticians, phonologists, and morphologists.¹ This is understandable, given that the solution to the second position cliticization puzzle has promised to shed light on such serious theoretical issues as the nature of the syntax-phonology interface (including the questions of whether the interface is derivational or co-present, non-derivational, with bidirectional interaction between the syntax and phonology, and, if the former, whether the syntax needs to look ahead to the needs of the phonology), and the questions of whether movement is possible in PF, what the internal structure of PF is, when lexical insertion can take place, how much of morphology is syntactic, what the nature of V-2 is, etc.

The bulk of recent work on second position cliticization has been done with respect to Slavic languages, especially Serbo-Croatian (SC).² This is not surprising, given that most second position cliticization languages are either no longer spoken (Sanskrit, Ancient Greek, Hittite, Old Spanish, among others) or, if they are, they are not as readily accessible as SC (Warlpiri, Pashto,

¹This chapter is a considerably expanded version of Bošković (2000b).

²Slovenian and Czech are also considered to have second position cliticization. However, ‘second position’ clitics in these languages can appear clause initially (see, for example, Toman 1986, 1993 for Czech and Browne 1986, 1994 for Slovenian), which means that they are losing second position cliticity. This makes Slovenian and Czech much less profitable than SC in examining the second position clitic effect. Slovenian and Czech clitics are discussed in chapter 3.

Tagalog, Luiseño, Mayo, Ngiyambaa, among others).³ For this reason, SC is increasingly becoming a testing ground for theories of second position cliticization. As a result, the argumentation and the kind of data examined with respect to second position cliticization in SC have reached a level of subtlety not attested in the discussion of the phenomenon in other languages.

This chapter focuses on second position cliticization in SC. The empirical basis of the phenomenon will be examined in some detail and used as a testing ground for different theories of second position cliticization. Previous arguments for and against different theories of second position cliticization in SC will be summed up and a number of new arguments will be given in an attempt to provide a complete picture of the phenomenon and determine empirically and conceptually the most adequate theory of second position cliticization in SC. The overarching theoretical concern during the investigation will be issues concerning the relation of syntax to phonology, particularly the nature of the interface and the question of whether typical syntactic operations such as movement can apply in the phonology.⁴

2.1. APPROACHES TO SECOND POSITION CLITICIZATION IN SERBO-CROATIAN

The phenomenon of second position cliticization in SC is illustrated by (1a-d). Locating clitics in any other position or splitting the clitic cluster in (1) would lead to ungrammaticality. (Second position clitics are given in italics.)

- (1) a. Mi *smo mu je* predstavili juče.
 we are him.dat her.acc introduced yesterday
 ‘We introduced her to him yesterday.’
- b. Zašto *smo mu je* predstavili juče?
 why are him.dat her.acc introduced yesterday
 ‘Why did we introduce her to him yesterday?’
- c. Ona tvrdi da *smo mu je* mi predstavili juče.
 she claims that are him.dat her.acc we introduced yesterday
 ‘She claims that we introduced her to him yesterday.’
- d. Predstavili *smo mu je* juče.

³I have in mind here the availability of the relevant data, number of linguists working on the language, and a relatively rich descriptive grammar tradition.

⁴It is very important to bear in mind that what I mean by phonology is the whole PF component, comprising the derivation from S-Structure to the final phonetic representation. Some morphological operations are clearly included here. (In fact, Morphological Structure would be included in PF in my sense of the term.)

introduced are him.dat her.acc yesterday
 ‘We introduced her to him yesterday.’

A number of different theories of second position cliticization in SC have been proposed. Here, I will concentrate on the approaches that taken together can give us a complete picture of different angles one can take when examining the phenomenon.⁵ The approaches can be broadly classified into two groups - syntactic and phonological - depending on which component of the grammar plays the most prominent role in the account. Each of these can be further subdivided into two groups depending on whether they allow at least some amount of word reordering in PF. We then get the following four approaches:

(a) *The strong syntax approach*, which holds that the syntax is completely responsible for second position cliticization in SC. The linear position of the clitic cluster is fully determined by the syntax; clitics do not move in PF. Constructions involving a clitic in, for example, the third position of its clause are ruled out in the syntax. (The authors cited below differ in their treatment of clause-initial clitics constructions, see section 2.2.2.1.) This approach has a number of proponents. Some of the works representing this line of research are Dimitrova-Vulchanova (1995), Franks (1997a, b, 1998a, 1999), Franks and Progovac (1994), Progovac (1996), Rivero (1997), Roberts (1994), Tomić (1996a), Wilder and Ćavar (1994a, b).

(b) *The strong phonology approach*, which holds that the phonology is fully responsible for second position cliticization in that it brings clitics into second position. (Clitic placement is accomplished by applying Move in the phonology.) This approach allows extensive word reordering in PF. The best known representative of this line of research is Radanović-Kocić (1988) (see also Hock 1992).

(c) *The weak syntax approach*. Under this approach most movements of clitics take place in the syntax. However, a small amount of word reordering is still allowed in PF. More precisely, clitics are allowed to undergo phonological movement in certain well-defined configurations. Halpern (1992, 1995) is the first explicit proponent of this approach for SC. Other works along these lines are Embick and Izvorski (1997), King (1996), Percus (1993), and Schütze (1994).

(d) *The weak phonology approach*, which holds that the phonology is responsible for the second position effect. Under this approach, however, all movements of clitics take place in the syntax. Phonology plays only a passive filtering role by ‘selecting’ outputs of syntax; i.e. by ruling out certain syntactically well-formed sentences due to violations of phonological requirements on clitics. Bošković (1995) gives an outline of such an approach but does not fully develop it. That

⁵Several interesting approaches to second position cliticization in SC (see, for example, Zec and Inkelas 1990, Anderson 1992, 1993, 1996, Phillips 1996, and Caink 1998) cannot be easily categorized in the typology to be given below, differing as they do from the works cited below in some basic underlying assumptions concerning the nature of the syntax-phonology interface and/or lexical insertion of clitics.

task will be taken up below.⁶

I will start by discussing syntactic approaches. They will be examined in very close detail, since they are very influential and dominate recent literature on the subject. This holds for both the strong and the weak syntax account. The latter is theoretically very interesting since it is crucially based on the possibility of movement taking place in the phonology in certain well-defined configurations. Determining whether movement can indeed take place in the phonology is one of the central theoretical goals of this chapter.

2.2. SYNTACTIC ACCOUNTS OF SECOND POSITION CLITICIZATION

The strong and the weak syntax account of second position cliticization share the following assumptions:⁷

- (2) a. Clitics cluster together syntactically, i.e., clause-mate clitics are all located in the same position.
- b. The position is structurally fixed for all constructions.
- c. It is located high in the tree, so that there is no space for more than one element to occur in front of the clitic cluster within its clause.

Most proponents of the syntax approach assume that SC clitics are located under C⁰ (Franks and Progovac 1994, King 1996, Progovac 1996, Schütze 1994, Tomić 1996a, and Wilder and Čavar 1994a, b). Rivero (1997) argues that SC clitics are located in the specifier, and Percus (1993) and Roberts (1994) in the head position of a phrase located between C and I. Halpern (1995) assumes that they are adjoined to that phrase.

The strong and the weak syntax accounts differ with respect to the possibility of having no lexical material in front of clitics in the overt syntax. Under the strong syntax account this possibility never arises: no grammatical construction can contain sentence-initial clitics in the output of the syntax. Clitics are placed in second position in the syntax. Under the weak syntax account, on the other hand, it is possible to have grammatical constructions in which a clitic is located sentence initially in the output of the syntax. If that happens, the clitic moves in the phonology looking for an appropriate host. The underlying assumption here is that SC second

⁶Some syntactic accounts also assume a limited amount of filtering out by the phonology (see the introduction to section 2.2 and section 2.2.2.1).

⁷The exception is Franks (1998a) (see also Caink 1998, 1999a, who independently proposes a similar analysis), who crucially relies on (2a) but not on (2b-c) as a result of certain assumptions concerning structure building that he adopts. For the moment I will ignore Franks (1998a) and return to this very interesting work in section 2.2.2.2.8 after discussing other syntactic approaches.

position clitics have a lexical requirement that forces them to encliticize to a stressed element. Phonology has a filtering effect in that it rules out constructions in which a clitic is found sentence initially, violating the enclitic requirement. Clitics are allowed to move in PF in order to satisfy this requirement. In particular, PF movement takes place in SC when an enclitic is found stranded in sentence-initial position to ensure that the enclitic has an appropriate host.⁸ Given the well-defined motivation for PF movement, the movement ends up being very local. (It places the clitic in a position immediately following the first stressed word.) Halpern (1992, 1995) calls the operation responsible for moving clitics in PF Prosodic Inversion (PI). In (3) I give the formulation of PI from Halpern (1995:63). (Similar operations were proposed for other languages by Marantz 1988, 1989, Sproat 1988, Sadock 1991, and Taylor 1990.)

- (3) For a DCL [directional clitic], X, which must attach to a ω [phonological word] to its left (respectively right),
- a. If there is a ω , Y, comprised of material which is syntactically immediately to the left (right) of X, then adjoin X to the right (left) of Y.
 - b. else attach X to the right (left) edge of the ω composed of syntactic material immediately to its right (left).

Halpern formulates PI as a last-resort operation that affects clitics only if their prosodic requirements are not satisfied and moves them only the minimal distance necessary to satisfy the requirements. In the following section I will examine the theoretical and empirical validity of PI.

2.2.1 The weak syntax account: Prosodic Inversion

2.2.1.1 Syntactic mobility of clitic hosts. Halpern proposes PI to account for the traditional observation (see Browne 1974 and Comrie 1981) that SC clitics can be located either after the first phrase of their sentence (1P environment), as in (4a), or after the first word (1W environment), as in (4b), where a clitic appears to break up a phrasal constituent:

- (4) a. Taj čovjek *je* volio Milenu.
 that man is loved Milena
 ‘That man loved Milena.’
 b. Taj *je* čovjek volio Milenu.

⁸Given this line of reasoning we would also expect PF movement to occur in languages with proclitics when a proclitic is found in sentence-final position. I am not aware of any examples of this kind. If there are no such examples, there is a serious problem for this approach.

In (4a), where a whole phrase precedes the clitic, syntactic movement could provide a host for the clitic, which is assumed to be located outside IP under syntactic approaches to second position cliticization. Halpern argues that in 1W environments such as (4b), where the clitic appears to break up a phrasal constituent, PI provides a host for the clitic. According to Halpern, the clitic is sentence initial in the output of the syntax. PI then takes place in the phonology, placing the clitic after the first stressed word, namely *taj*.

- (5) a. Syntax: *je taj čovjek volio Milenu*.
 b. PF: *Taj je čovjek volio Milenu*.

Progovac (1996) and Wilder and Čavar (1994a), however, show that the 1W/IP dichotomy with respect to clitic placement in (4) is in fact an artifact of the general possibility of separating SC determiners from nouns in the syntax, as illustrated by (6a-b), which cannot be derived by PI and must involve syntactic movement (left-branch extraction) of the determiner. In other words, Progovac and Wilder and Čavar argue that in (4b) we are dealing with 1P placement, with the phrase preceding the clitic being located in front of the clitic at SS after undergoing left-branch extraction. (Note that SC determiners are morphologically adjectives, see Zlatić 1997.)⁹

- (6) a. *Kojeg/Tog_i Milena voli t_i čovjeka*
 which/that Milena loves man
 ‘Which man does Milena love?’
 ‘Milena loves that man.’
 b. *Kojeg/Tog_i je Milena voljela t_i čovjeka*
 which/that is Milena loved man
 ‘Which man did Milena love?’
 ‘Milena loved that man.’

Progovac (1996) and Wilder and Čavar (1994a) argue that only elements that can be base-generated in front of clitics or can be independently shown to be able to undergo syntactic movement can precede SC clitics within their clause. As a result, they conclude, there is no need to appeal to phonological movement to account for second position cliticization in SC. To illustrate their point, in (7) I give two more examples that appear to involve a clitic breaking up a phrasal constituent, which are candidates for PI under the assumption that PI can, but syntactic movement cannot, do this. As shown in (8a-d), which cannot be derived by PI, it is possible to show in all the relevant cases that the element preceding the clitic in (7a-b) is capable of undergoing syntactic movement and therefore could be placed in front of the clitic in (7a-b) by syntactic movement.

⁹Note in this respect also Nevis’s (1988:105) observation that second position cliticization generally correlates with freedom of word order.

- (7) a. Anina *je* sestra došla.
 Ana's is sister arrived
 'Ana's sister arrived.'
- b. Zeleno *je* auto kupio.
 green is car bought
 'He bought a green car.'
- (8) a. Čija/Anina dolazi sestra
 whose/Ana's arrives sister
 'Whose/Ana's sister is arriving?'
- b. Čija/Anina *je* došla sestra
 whose/Ana's is arrived sister
 'Whose/Ana's sister arrived'
- c. Kakvo/zeleno Jovan kupuje auto
 what-kind/green Jovan buys car
 'What kind of a car is Jovan buying?'
- d. Kakvo/zeleno *je* Jovan kupio auto
 what-kind/green is Jovan bought car
 'What kind of a car did Jovan buy?'
- 'Jovan bought a green car.'

In (9a) we have an element that apparently cannot undergo syntactic movement. As shown in (9b) and discussed by Progovac (1996) and Wilder and Čavar (1994a), although stressed, the element in question also cannot precede clitics.¹⁰

- (9) a. *Prema Milan i Jovan idu Mileni.
 toward Milan.nom and Jovan.nom walk Milena.dat
 'Milan and Jovan are walking toward Milena.'
- b. *Prema *su* Mileni Milan i Jovan išli.
 toward are Milena.dat Milan.nom and Jovan.nom walked
 'Toward Milena Milan and Jovan walked.'

¹⁰Most SC prepositions are lexically unaccented (they procliticize to the following stressed word) and therefore cannot host clitics, which need a phonologically strong host. However, *prema* is accented.

Examples where 1W placement fails have also been reported for other second position clitics languages, for example, Luiseño (see Steele 1976) and Tagalog (see Schachter and Otnes (1972:187-193).

Notice also that even English raises a problem for PI. Assuming that contracted auxiliaries in English are enclitics, we would expect PI to apply to a syntactic output such as (ia), an undesirable result (see (ib)).

- (i) a. SS: 's her mother going there?
 b. PF: *Her's mother going there?

- c. Prema Mileni *su* Milan i Jovan išli.
- d. Milan i Jovan *su* išli prema Mileni.

Under the PI analysis, the ungrammaticality of (9b) is surprising. It should be possible for the syntax to provide the following output to PF:

(10) *su* prema Mileni Milan i Jovan išli.

PI should then apply to (10) placing the clitic after *prema*, thus incorrectly deriving (9b).¹¹

As pointed out by Čavar and Wilder (1994), a similar problem for the PI analysis is raised by constructions such as (11a), where the clitic is also hosted by an element that cannot undergo syntactic movement (cf. (11c-d)). On the problematic derivation the clitic is generated above the subject NP (11b) and then moves in PF via PI after the first stressed word of the subject NP (see section 2.2.2.2.9 for more extensive discussion of clitic placement in the construction in question.)

- (11) a. *Ja *sam*, tvoja mama, obećala tebi igračku.
I am your mother promised you.dat toy
'I, your mother, promised you a toy.'
- b. SS: *sam* ja, tvoja mama, obećala tebi igračku.
- c. Ja *sam* obećao njoj, tvojoj mami, igračku.
I am promised her.dat your mother toy
'I promised her, your mother, a toy.'
- d. *Njoj *sam* obećao tvojoj mami igračku.

Coordinate structures such as (12a) are also problematic. (12a) is expected to be well-formed under the PI analysis, given the derivation on which the auxiliary precedes the conjoined phrase at SS (12b) and is placed after the first word of the first conjunct by PI in PF. (The construction is fine with the clitic following the subject NP - *Tvoja majka i Petar su otišli*.)

- (12) a. *Tvoja *su* majka i Petar otišli.
your are mother and Petar left
'Your mother and Petar left.'
- b. SS: *su* tvoja majka i Petar otišli.
- c. *Tvoja/čija_i tvrdiš da *su* [t_i majka i Petar] otišli.
your/ whose claim that are mother and Petar left

¹¹Halpern does attempt to provide an account of this kind of examples. However, Schütze (1994) shows that the account is seriously flawed both empirically and conceptually. The basic idea behind Halpern's attempt, namely, positing additional locality restrictions on PI, will be explored briefly in chapter 4 with respect to Bulgarian.

‘You claim that your mother and Petar left.’

‘Whose mother do you claim that she and Petar left?’

As shown in (12c), the element hosting the clitic in (12a) is syntactically immobile in the configuration in question. (Notice, however, that, as shown in Stjepanović *in press*, in some cases SC does allow extraction from coordinate structures.)

Progovac gives several other examples where she claims both syntactic movement in front of a clitic and 1W placement fail, which raise the same problem for the PI analysis. Consider (13). (The judgments in (13a-d) are Progovac’s (1996, personal communication). As discussed below, there is some variation with respect to (13a-c).)

- (13) a. *Roditelji dolaze uspešnih studenata.
 parents arrive successful students.gen
 ‘Parents of successful students are arriving.’
- b. *Roditelji *su* došli uspešnih studenata.
 parents are arrived successful students.gen
 ‘Parents of successful students arrived.’
- c. *Roditelji *su se* uspešnih studenata razišli.
 parents are self successful students.gen dispersed
 ‘Parents of successful students dispersed.’
- d. cf. Roditelji uspešnih studenata *su se* razišli.
- e. SS: *su se* roditelji uspešnih studenata razišli.

Under the PI analysis, (13c) could be derived by applying PI to the string in (13e). (13c) is thus incorrectly predicted to be good in the relevant dialect on the PI analysis, but not on the syntactic movement analysis, which allows only elements that can be placed syntactically in front of a clitic to host it.

Interestingly, in my dialect, (13c) is acceptable, though somewhat marginal. Significantly, the same holds for (13a-b). The correlation between syntactic extractability and the ability to host a clitic thus holds. In fact, the dialectal split provides a very strong confirmation of the generalization that only elements that can be placed in front of clitics by syntactic movement (or be base-generated in front of clitics) can precede clitics in SC. (I am not aware of any dialect that would have a difference between cliticization and syntactic movement with respect to the constructions under consideration.)

An interesting confirmation of the conclusion is provided by certain facts discussed by Franks (1997a, b). In SC it is possible in some cases to inflect for structural case either one or both names in first+last name complexes. (Nominative is the default case in (14-16).)

- (14) 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

The first name can be separated from the last name by movement only when both names are inflected for structural case.¹²

- (15) a. Lava čitam Tolstoja.
 b. *Lava čitam Tolstoj.
 c. *Lav čitam Tolstoja.

Significantly, cliticization patterns with movement in this respect.¹³

- (16) a. Lava *sam* Tolstoja čitala.
 Leo.acc am Tolstoi.acc read
 ‘Leo Tolstoi, I read.’
 b. *Lava *sam* Tolstoj čitala.
 Leo.acc am Tolstoi.nom read
 c. *Lav *sam* Tolstoja čitala.
 Leo.nom am Tolstoi.acc read
 d. Lava Tolstoja *sam* čitala.
 e. ?Lava Tolstoj *sam* čitala.
 f. Lav Tolstoja *sam* čitala.

Franks observes that this pattern is expected under analyses that allow only elements that can be base-generated or syntactically moved in front of a clitic to precede the clitic. The pattern, however, raises a serious problem for the PI analysis. Under this analysis we would expect all of the constructions in (16a-c) to be acceptable, since nothing blocks the derivation in which the names remain in SpecIP overtly, with the clitic located above the subject (C under most PI analyses). PI

¹²Interestingly, *Tolstoja čitam Lava* is unacceptable.

¹³Franks notes this with respect to examples in which only the first name is inflected for structural case. Nothing, however, changes if only the second name is inflected for structural case.

would then apply in PF placing the clitic after the first name, the first stressed word following the clitic, thus deriving (16a-c), incorrectly predicting all of these constructions to be good.

Let us now consider possibilities for contrastive focus in split-NP constructions involving complex names. As shown in (17), either the first name or the last name of a complex town name split by a clitic can be contrastively focused.¹⁴ However, it is not possible to contrastively focus the whole complex name if the name is split by a clitic. To do that, the clitic has to follow the whole name. (Note that *Donji Vakuf* and *Bačka Palanka* exist. There is no *Novi Zrenjanin* or *Zrenjanin Sad* (to the best of my knowledge). Actually, it is not possible to contrast *Novi* in *Novi Sad* with anything. Contrastively focused elements in (17) are given in capitals.)

- (17) a. U GORNJI *su* Vakuf došli, ne DONJI.
 in Gornji are Vakuf arrived not Donji
 ‘In Gornji Vakuf they arrived, not Donji (Vakuf).’
- b. U Bačku *su* TOPOLU došli, ne PALANKU.
 in Bačka are Topola arrived, not Palanka
 ‘In Bačka Topola they arrived, not (Bačka) Palanka.’
- c. *U NOVI *su* SAD došli, ne ZRENJANIN.
 in Novi are Sad arrived, not Zrenjanin
 ‘In Novi Sad they arrived, not Zrenjanin.’
- d. U NOVI SAD *su* došli, ne ZRENJANIN.
- e. Voljeli *su* Donji Vakuf. Ne, ne, GORNJI *su* Vakuf voljeli.
 loved are Donji Vakuf no no Gornji are Vakuf loved
 ‘They loved Donji Vakuf. No, they loved Gornji Vakuf.’
- f. Voljeli *su* Bačku Topolu. Ne, ne, Bačku *su* PALANKU voljeli.
 loved are Bačka Topola no no Bačka are Palanka loved
 ‘They loved Bačka Topola. No, they loved Bačka Palanka.’
- g. Voljeli *su* Zrenjanin. Ne, ne, NOVI SAD *su* voljeli./*NOVI *su* SAD voljeli.
 loved are Zrenjanin no no Novi Sad are loved
 ‘They loved Zrenjanin. No, they loved Novi Sad.’

These facts are surprising if in split-names constructions the clitic is placed after the first name by PI, in which case (17a-c) would have the following structures in the output of the syntax. (The point made with respect to (17a-c) can also be made with respect to (17e-g).)

- (18) a. *su* u Gornji Vakuf došli...

¹⁴Notice that under the most natural interpretation, one of the names split by a clitic is contrastively focused. This might be the reason why some speakers find constructions such as (16a) somewhat degraded. (There seems to be no plausible contrast with just *Lav* or *Tolstoj*.)

- b. *su* u Bačku Topolu došli...
- c. *su* u Novi Sad došli...

We could try to account for the focus possibilities in the constructions in question by assuming that the position immediately following the clitic is a focus position, to which focused elements move in the syntax. The problem is to limit the focus requirement on the first name. It appears that nothing blocks the derivation in which the whole complex town name is contrastively focused. PI should then give us the following constructions, with the whole complex town names, *Gornji Vakuf*, *Bačka Topola*, and *Novi Sad*, contrastively focused. (Note that the preposition *u* is not stressed and therefore not a phonological word.)

- (19) a. U GORNJI *su* VAKUF došli...
 b. U BAČKU *su* TOPOLU došli...
 c. U NOVI *su* SAD došli...

However, as shown above (see (17c)), such constructions are unacceptable.

The above facts can be readily accounted for under purely syntactic movement accounts of SC second position cliticization. Apparently, there are two focus positions in SC, one above the auxiliary clitic and one below it, both being above the main verb (see Bošković 1997c and Stjepanović 1995 for precise locations of these positions, which need not concern us here). The first possibility is illustrated by (17a,d) and the second by (17b).¹⁵ Notice that if a clitic host can be placed in front of the clitic only through syntactic movement (I am ignoring here elements that are base-generated in front of clitics), we have a direct correspondence between the PF word order and the output of the syntax. Since neither the pre-auxiliary nor the post-auxiliary focus position contains the whole complex name in (17a-c), the whole complex name cannot be focused, only its constituents can be focused. (Note that the PP in question can be split by syntactic movement, see fn. 25.) In (17d), the whole name can be focused, since the whole name can be located in the focus position in the syntax.

I conclude, therefore, that split-names constructions, which have previously been argued to provide evidence that clitic placement cannot be syntactic (see, for example, Anderson 1996), are not only consistent with syntactic placement accounts, but in fact provide strong evidence against PI. Such constructions cannot be derived by applying PI without undesirable consequences.

To summarize the discussion in this section so far, the data discussed above indicate that only elements that can be independently shown to be able to undergo syntactic movement can

¹⁵I assume that in the constructions in question it is not possible to "activate" both focus positions at the same time. Doing this would lead to a relativized-minimality type violation with focus movement. Notice also that constructions involving multiple clause-mate foci are extremely rare crosslinguistically. Most languages disallow such constructions (see the papers in Kiss 1995).

precede and host clitics in SC (from now on I will disregard elements that are base-generated in front of clitics). The PI analysis should be rejected since it fails to capture this generalization.

2.2.1.2 Complex PP splits. Schütze (1994), however, argues that the generalization is empirically incorrect. Following up on some data discussed by Percus (1993), he gives one example in which he claims the clitic host cannot be located in front of the clitic in the syntax, since it can be independently shown that the relevant element is syntactically immobile. Schütze bases his argument on the following contrast:

- (20) a. U ovu *je* veliku sobu ušao.
 in this is big room entered
 ‘He entered this big room.’
 b. ?*U ovu Jovan ulazi veliku sobu.
 in this Jovan enters big room
 ‘Jovan is entering this big room.’

Schütze interprets the ungrammaticality of (20b) as indicating that in a sequence P+Det+Adj+N, P+Det cannot be split from the rest of the sequence by syntactic movement.¹⁶ Since P+Det precedes the clitic in (20a), we appear to have here evidence that elements that cannot undergo syntactic movement can still precede and host SC clitics, as expected under the PI analysis. Under this analysis, the syntax could have (21a) as its output, with PI placing the clitic after the first phonological word in PF. (Recall that the preposition *u* is not stressed and therefore not a phonological word.)

- (21) a. Syntax: *je* u ovu veliku sobu ušao.
 b. PF: u ovu *je* veliku sobu ušao.

The pair in (20) is often cited as the strongest empirical evidence for PI in SC. It is therefore important to examine it carefully.

Notice first that (20a-b) do not form a minimal pair in the relevant respect. Whereas in (20a) the remnant of the split PP precedes the verb, in (20b) it follows it. This is an important interfering factor, since such splits are generally better when the remnant of the split precedes the verb.¹⁷ (20b)

¹⁶This is in contrast to P+Det in P+Det+N sequences.

(i) U ovu/u koju Jovan ulazi sobu
 in this/in which Jovan enters room

¹⁷The grammaticality status of constructions where this is not the case varies considerably. As noted in Čavar (1996), some such constructions are quite unacceptable. Čavar gives the construction in (i).

actually improves if the remnant is placed in front of the verb, which gives us a closer minimal pair with (20a).

(22) ??U ovu Jovan veliku sobu ulazi.
 in this Jovan big room enters

(20a) still appears to be somewhat better than (22), though the contrast is not conclusive now. Notice also that (22) improves even more if *Jovan* is replaced by a pronoun that is not a second position clitic.

(23) (?)U ovu on veliku sobu ulazi.
 in this he big room enters

Since the pronoun in (23) is not an enclitic, there is no need to apply PI. The PI analysis of (20a) then cannot be extended to (23). The lack of a clear contrast between (20a) and (23) thus remains unaccounted for under the PI analysis. (If there is any contrast, it is *very* weak.)

Notice also that (20a) itself becomes degraded if the clitic is replaced by a clitic cluster. (24) differs little, if at all, from (22) and is worse than (23). This is unexpected under the PI analysis. Under this analysis we would not expect any difference between (20a) and (24), since PI would be expected to affect the whole clitic cluster (i.e. each clitic in the cluster). We would, however, expect (24) to be better than (22) and (23).

(24) ??U ovoj si mi ga se velikoj sobi zasitio.
 in this are me it self big room fed-up
 ‘You got fed up with it in this big room.’

Given these facts, I think that we can safely conclude that the data concerning complex PP splits provide no evidence for PI. It seems to me that the following scenario is the most plausible here: extraction of *u ovoj* out of the PP *u ovoj velikoj sobi* is not allowed. When the material intervening between the parts of the split PP is not very prominent phonologically (length and stress being relevant here), the saliency of the split decreases. The sentence is then parsed as if it did not involve a PP split. When we increase the saliency of the split by making the intervening material phonologically more prominent (longer and/or stressed) this parse becomes unavailable and the

(i) *Na kakav je Ivan bacio loptu krov?
 on what-kind is Ivan thrown ball roof
 ‘On what kind of roof did Ivan throw the ball?’
 (ii) cf. Na kakav je Ivan krov bacio loptu?

sentence is parsed as a real instance of movement out of the PP, which is not allowed.¹⁸ If this analysis is on the right track, the data in question in fact provide further evidence against PI since they show that elements that cannot undergo syntactic movement cannot host clitics.¹⁹

2.2.1.3 Predicate fronting. As noted above, traditional 1W contexts provide a potential source of evidence for PI. Browne (1975) argues that one such context involves clauses of the form *be*+predicate. He argues that such constructions allow only 1W placement (i.e., they represent 1P fortresses) based on examples such as (25a-f). I will examine such constructions in some detail here since Schütze (1994) argues that they provide evidence for PI. (I add lexical material following the auxiliary/copula clitic since locating clitics clause finally is sometimes disfavored. Notice also that throughout this work, I ignore the distinction between copula and auxiliary clitics, since it is not important for our current purposes.)

- (25) a. **Prodao novine je* (juče).
 sold newspapers is yesterday
 ‘He sold newspapers yesterday.’
 b. *Prodao je novine* (juče).
 c. **Sposoban direktor je* (on).
 capable manager is he

¹⁸Under the most natural pronunciation, *Jovan* in (22) and the clitic cluster in (24) are followed by a small pause, which causes the following adjective to be pronounced with a slightly higher pitch and a slightly stronger stress, which is not the case with (20a), and does not have to be the case with (23). It seems that the combined effect of the pause, pitch, and stress increases the saliency of the split, which is confirmed by the fact that playing with the relevant prosodic properties (adding or eliminating the combined effect of the pause, pitch, and stress) affects the acceptability of the constructions under consideration. Thus, a small pause after the clitic, accompanied by the pitch+stress effect, makes even (20a) bad.

Notice also that the construction in (i), where the PP split is most salient, is consistent with the analysis given above.

- (i) ???*U ovu si vjerovao da je veliku sobu ušao.*
 in that are believed that is big room entered
 ‘You believed that he entered that big room.’

¹⁹A number of interesting questions independent of second position cliticization remain to be answered. First, why is it possible to extract P+Det sequences, or more generally P+Adj sequences (recall that determiners in SC are morphologically adjectives), leaving the noun behind? Second, why is it that, in contrast to P+Adj in a P+Adj+N sequence, P+Adj in a P+Adj+Adj+N sequence cannot be extracted? (The same state of affairs is found in constructions without prepositions: Adj can be extracted out of an Adj+N sequence, but generally not out of an Adj+Adj+N sequence.) One would hope that, when properly analyzed, these SC facts would give us an insight into the internal structure of these sequences, which is still largely mysterious. (For example, it is not clear whether Adj takes NP as its complement or is itself located somewhere within the NP projection (it is not clear exactly where that would be).) For some relevant discussion of SC, see Franks and Progovac (1994). For discussion of the internal structure of the traditional NP in SC, see Leko (1986, 1999), Progovac (1998b), Stjepanović (1998c), and Zlatić (1997, 1998).

- ‘He is a capable manager.’
 d. Sposoban *je* direktor (on).
 e. *Strašno dosadni *su* (oni).
 terribly boring are they
 ‘They are terribly boring.’
 f. Strašno *su* dosadni (oni).

The fact that the complement of a clitic cannot be preposed could be interpreted as an ECP-type phenomenon; i.e., it could be taken to indicate that clitics are too weak to license their complement with respect to the ECP (the head government part of the conjunctive ECP).²⁰ When the clitic auxiliary is replaced by a full, non-clitic form (25a,c,e) become good, which on this analysis would be interpreted as indicating that full non-clitic forms of auxiliaries are proper governors, i.e., they can license their complement with respect to the ECP. (This implies that the non-clitic auxiliaries under consideration are independent lexical items, as in Bošković 1995, King 1996, and Caink 1998 (see especially Caink 1998 for very convincing arguments to this effect), and not derived by incorporating a clitic into another element, as in Rivero 1991, Tomić 1996a and Wilder and Čavar 1994a.)²¹

- (26) a. Prodao novine jeste/nije.
 sold newspapers IS/not+is
 ‘He did/did not sell newspapers yesterday.’
 b. Sposoban direktor jeste/nije.
 capable manager IS/not+is
 ‘He IS/is not a capable manager.’
 c. Strašno dosadni jesu/nisu.

²⁰See also Tomić (1996a). Of course, it still remains to be seen how ECP-type phenomena are to be captured in the current framework, which has no natural place for the notion of government. See also Caink (1998) for an analysis along these lines which is based on very different assumptions concerning the syntactic and phonological properties of SC clitics. (Caink’s analysis, however, faces a serious problem with respect to the crosslinguistic/dialectal variation noted in fn. 21 and section 3.4.)

²¹The difference between clitic and non-clitic auxiliaries with respect to ECP licensing is not surprising under the approach to structural representation of clitics proposed in chapter 4, on which clitic and non-clitic auxiliaries are located in different structural positions. In fact, under the analysis presented in chapter 4, the predicate undergoing fronting in (25a,c,e) would actually be the complement of a null head, and not the auxiliary. In (26) it would still be the complement of the auxiliary.

It is worth mentioning here that according to Wilder and Čavar (1994a) and Čavar (in preparation), some Croatian speakers allow VP preposing with clitic auxiliaries. Notice also that some speakers allow it only when the auxiliary is the 3.p.sg *je*. This is not surprising, since it is well-known that *je* is losing its cliticood. (For relevant discussion, see Browne 1975, Schütze 1994, Tomić 1996a, and section 3.2). Alternatively, as suggested by an anonymous reviewer, it is possible that *je* has never fully gained its clitic properties. See also section 3.4 for discussion of predicate fronting in Slovenian.

terribly boring ARE/not+are
 ‘They ARE/are not terribly boring.’

As for (25b), as shown in Bošković (1995, 1997a), such constructions simply involve adjunction of the participle to the auxiliary, located in its base-generated position. (The head-government part of the conjunctive ECP can be satisfied by the moved element itself, an X^0 .) The adjunction is driven by feature-checking. It is in fact argued in Bošković (1997a) that crosslinguistically, the head of the complement of a modal or an auxiliary must adjoin to the modal/auxiliary, languages differing only with respect to when this adjunction takes place. (For some relevant discussion, see also Wilder and Čavar 1994b).²²

Consider now (25d). We could also be dealing here with adjunction of the head of the complement of the auxiliary to the auxiliary under Abney’s (1987) analysis, in which Adj takes NP as its complement. Another possibility (if Abney’s analysis is not adopted and AP is placed within NP) is phrasal left-branch extraction, in which case we would not be dealing here with 1W placement at all. Evidence for this analysis is provided by (27), where the element preceding the clitic is clearly an XP.²³

²²I argue that the adjunction, whose direction I argue is free in SC, always takes place overtly in SC, the relevant feature being strong. (In the system developed in chapters 3 and 4 the analysis can be maintained with strictly leftward head adjunction, in accordance with Kayne 1994.) The participle still does not have to be adjacent to the auxiliary, since SC auxiliaries can optionally move to Agrs overtly, like English modals (see fn. 43), in which case they are forced to excorporate out of the auxiliary+participle complex by principles of economy, as discussed in Watanabe (1993). According to Watanabe, when in a complex head X+Y X has a feature to check against a higher head Z, and Y does not, principles of economy (“Carry as little material as possible”) force X to excorporate and move alone to Z. Theoretical motivation behind the economy account of excorporation is very strong, since the same principle of economy forces all LF movement to be feature movement and derives Procrastinate in Chomsky’s (1995) system. As shown in Bošković (1997a), its empirical motivation is also strong. It is well-known that in Dutch complex verbal constructions, all verbal elements can overtly adjoin to each other (see Roberts 1991 and references therein and Zwart 1995, den Dikken and Hoekstra 1997 and references therein for alternative analyses). In spite of that, in V-2 constructions only the finite verbal element can move to C, apparently obligatorily excorporating out of the V-cluster. This is in accordance with the economy account of excorporation, movement to C being driven by the feature [+finite], which verbal elements that are forced to stay behind do not have. (The analysis is essentially along the lines of Roberts 1991. Moving *hebben* and/or *gelezen* to C together with *moet* in (i) would result in ungrammaticality. For accounts of the possible orders in Dutch verbal clusters, see Bošković 1997a and references therein.)

- (i) a. dat Jan het boek moet hebben gelezen/gelezen moet hebben/?gelezen hebben moet/moet gelezen hebben.
 that Jan the book must have read
 ‘that Jan must have read the book.’
 b. Gisteren moet Jan het boek hebben gelezen/gelezen hebben.
 yesterday must Jan the book have read
 ‘Yesterday, Jan must have read the book.’

²³Under the left-branch-extraction analysis the extracted element could be licensed with respect to the head government part of the ECP within the predicate, since it would not be a complement of the auxiliary.

- (27) Izuzetno sposoban *je* (on) direktor.
 extremely capable is he manager
 ‘He is an extremely capable manager.’

Either way, the grammaticality of (25d), which contrasts with (25c), cannot be used as evidence for PI, which is what is important for our current purposes, details of the analysis suggested here being less important. The PI derivation, on which (25d) would be analyzed as having the sequence *je sposoban direktor* as the output of the overt syntax with PI placing the clitic following *sposoban* in PF, is clearly not the only way of analyzing (25d). (Note also that (27) cannot be derived by PI.) The same holds for (25f), which could be analyzed in the same way as (25d).²⁴ Notice furthermore that when the first word of the predicate is syntactically immobile, it is not allowed to precede the clitic auxiliary. Thus, speakers who find (13a-b) ungrammatical also find (28a) ungrammatical. On the other hand, speakers who accept (13a-b) also accept (28a). This strongly indicates that when a part of a predicate precedes the clitic auxiliary, it is placed there by syntactic movement, not by PI.

- (28) a. (*)Roditelji *su* uspešnih studenata.
 parents are successful students.gen
 ‘They are parents of successful students.’
 b. cf. Oni *su* roditelji uspešnih studenata.
 they are parents successful students.gen

It is often claimed that when a predicate contains only one word, it can be moved in front of the auxiliary, in contrast to (25a,c,e), where the predicate contains more than one word.

- (29) a. Zaspao *je*.
 fallen-asleep is
 ‘He fell asleep.’
 b. Pametan *je*.
 clever is
 ‘He is clever.’

This is unexpected under the analysis sketched above. However, there is no need to analyze (29a-b)

²⁴Note incidentally that non-clitic material can intervene between the adverb and the adjective, which is unaccounted for under the PI analysis.

- (i) a. Strašno *su* oni dosadni.
 terribly are they boring
 ‘They are terribly boring.’

as involving predicate preposing. The construction could simply involve adjunction of the head of the complement of the auxiliary to the auxiliary, just like (25b). (See Bošković 1997a and the discussion above. See also Lasnik 1995a, who argues that the auxiliary *be* in English constructions such as *John is smart* is a light verb, so that the lower predicate must head adjoin to it. This happens in LF in English, but apparently can happen overtly (at least as an option) in SC.)

As for constructions such as (30), noted by Browne (1975), they could be analyzed as involving adjunction of the noun to the preposition, or adjunction of the preposition, which is a (non-second position) proclitic, to the noun (this would involve lowering), followed by adjunction of the whole complex to the auxiliary. The last movement would take place for the same reason as in (29) and (25b).²⁵

- (30) U sobi su.
 in room are
 'They are in the room.'

That (30) involves head movement rather than fronting of the predicate phrase is indicated by (31).²⁶

²⁵The grammaticality of (i) indicates that there is a very close connection between the prepositional clitic and the following word in the overt syntax. (Cedric Boeckx (personal communication) observes that the fact that in many languages (for example, German, Italian, and Greek), a preposition and the determiner of its NP complement contract might be relevant here (see Van Riemsdijk 1998 for a recent discussion of the phenomenon).)

- (i) a. U veliku tvrdiš da sobu ulaze.
 in big claim that room enter
 'You claim that they are entering the big room.'
 b. U Gornji tvrdiš da su Vakuf došli.
 in Gornji claim that are Vakuf arrived
 'You claim that they arrived in Gornji Vakuf.'

It is possible that the preposition adjoins to the following head in the syntax so that it is affected by any XP movement that the maximal projection of this head undergoes. For analyses along these lines for Polish, see Borsley and Jaworska (1988) and Corver (1992). For an alternative analysis involving remnant PP preposing, preceded by movement of the element not contained in the preposed PP at SS, see Čavar and Wilder (1994) and Franks and Progovac (1994). (Franks and Progovac also suggest the P-movement analysis for some cases.) Yet another analysis, based on the copy-deletion mechanism discussed in chapter 3, is proposed in Čavar and Fanselow (1997).

²⁶(i) is also possible.

- (i) U drugoj su (oni) sobi.
 in other are they room
 'They are in the other room.'

(i) can be analyzed along the lines of (25d). (Notice that non-clitic material can intervene between *drugoj* and *sobi*.)

- (31) *U drugoj sobi su.
 in other room are
 ‘They are in the other room.’

I conclude, therefore, that there is no need to appeal to PI to account for clitic placement in *be*+predicate constructions, which are claimed by Browne (1975) to involve obligatory 1W placement and argued by Schütze (1994) to provide evidence for PI.

2.2.1.4 *Li*-constructions. Another potential argument for PI in SC concerns the behavior of the interrogative complementizer *li*. *Li* is normally used in yes-no questions. It can also be used with *wh*-words in emphatic questions. The *wh*-word in such questions receives additional focus. (In translations I give the focused words in *li*-clauses in bold letters. (32) could be rendered more accurately as *Who on earth does Peter love?* and (33) as *Is it books that Ana reads?* For discussion of *li*-constructions, see also chapter 4.)

- (32) Koga *li* Petar voli?
 whom Q Peter loves
 ‘**Who** does Peter love?’

Non-*wh*-words can also be used in such questions, as illustrated in (33).²⁷

- (33) Knjige *li* Ana čita?
 books Q Ana reads
 ‘Does Ana read **books**?’

The construction in (33) is a yes-no question with contrastive focus on the element preceding *li*, a second position clitic. An interesting fact about *li* is that it is placed after the first prosodic word, the placement which is illustrated by the above constructions. *Li* generally cannot occur following unambiguous phrasal material.²⁸ Thus, the following constructions are unacceptable:

- (34) a. *Čiju ženu *li* (Petar) voli?
 whose wife Q Peter loves
 ‘**Whose wife** does Peter love?’
 b. *Skupe knjige *li* (Ana) čita?

²⁷This use of *li* is not very frequent and is not accepted by all speakers (see, for example, Mihaljević 1997 for Croatian).

²⁸Mihaljević (1997) observes that this was possible in Croatian Church Slavonic, one of several national versions of Old Church Slavonic.

expensive books Q Ana reads
 ‘Does Ana read **expensive books**?’

The above constructions improve with 1W placement of *li*.

- (35) a. Čiju *li* ženu (Petar) voli?
 b. Skupe *li* knjige (Ana) čita?

1P placement is thus blocked with *li*. As noted above, obligatory 1W environments always represent a potential argument for PI. Given PI, the above facts can be accounted for as follows: suppose that in the syntax, the focused constituent is located in the first phrase below *li*. Since *li* is lexically specified as an enclitic, PI then takes place in PF placing *li* after the first stressed word. Under this analysis, constructions in (35a-b) are derived as follows:²⁹

- (36) a. Syntax: [_{CP} *li* [čiju ženu (Petar) voli]]
 PF: Čiju *li* ženu (Petar) voli?
 b. Syntax: [_{CP} *li* [skupe knjige (Ana) čita]]
 PF: Skupe *li* knjige (Ana) čita?

The PI analysis readily accounts for the 1W restriction on the placement of *li*. The argument for PI is, however, not complete. The elements that occur in front of *li* in (35) are all syntactically mobile. If PI indeed provides the host for focus *li* in SC we would expect that syntactically immobile elements could also host *li*. However, the expectation is not borne out. In (37) we have an example of a syntactically immobile element (cf. (9a)) attempting to host *li*. The resulting construction is ungrammatical.

- (37) *Prema *li* Mariji Jovan trči?
 toward Q Marija Jovan runs
 ‘Is Jovan running **toward** Marija?’

²⁹This is in fact the analysis Franks (1998a, 2000) proposes for Russian *li*, which, as shown in King (1994) and illustrated in (i), is also restricted to 1W environments. (For some discussion of Russian *li*, see fn. 31. For recent discussion of Russian focus *li*, see also Franks and King 2000, Rudin, King, and Izvorski 1998, and Rudnitskaya 2000. Notice that Russian differs from SC in that it does not allow wh-phrases in front of *li*, as noted in King 1994.)

- (i) a. Novye *li* mašiny emu nra vjatsja?
 new Q cars him.dat likes
 ‘Does he like **new** cars?’
 b. *Novye mašiny *li* emu nra vjatsja?

It appears that under the PI analysis, nothing rules out the following derivation, where PI places *li* following the stressed preposition *prema*.

- (38) Syntax: [_{CP} *li* [*prema Mariji Jovan trči*]]
 PF: **Prema li Mariji Jovan trči*.

The ungrammaticality of (37) thus provides evidence that *li* does not acquire its host through PI. The conclusion is confirmed by the following constructions:³⁰

- (39) a. *Lava li Tolstoja čita?*
 Leo.acc Q Tolstoi.acc reads
 ‘Does he/she read **Leo** Tolstoi?’
 b. **Lava li Tolstoj čita?*
 Leo.acc Q Tolstoi.nom reads
 c. **Lav li Tolstoja čita?*
 Leo.nom Q Tolstoi.acc reads
 d. **Kuću li i auto prodaje?*
 house Q and car sells
 ‘Is he/she selling **the house** and the car?’

Recall that, as shown above, the first name can be split from the last name by syntactic movement in SC only if both names are properly inflected for Case, i.e., if neither name receives the default nominative Case (see (15)). The fact that the first name can serve as the host for *li* only when it is syntactically mobile strongly indicates that it is syntax that provides the host for *li*, not phonology or, more precisely, PI. It is easy to verify that (39d) is also incorrectly predicted to be acceptable under the PI analysis.

That PI does not provide the host for *li* is confirmed by the following constructions:

- (40) a. *Čiju li Petar ženu voli?*
 whose Q Peter wife loves
 ‘**Whose** wife does Peter love?’
 b. *Skupe li Ana knjige čita?*
 expensive Q Ana books reads
 ‘Does Ana read **expensive** books?’
 c. *Lava li on Tolstoja čita?*
 Leo Q he Tolstoi reads

³⁰There is an implication in (39a) that there is another Tolstoi.

‘Does he read **Leo** Tolstoi?’

Constituent splits (i.e. splits of *čiju ženu/skupe knjige/Lava Tolstoja*) in the above constructions cannot be accomplished through PI.

Notice also that only the first element is focused in (35). (41) provides a confirmation of the restriction on focus possibilities in *li*-constructions (given that there is no Fyodor Dostoevsky Tolstoi. Notice that *Lava li Tolstoja čita, ili Fjodora* would imply a contrast with Fyodor Tolstoi. For relevant discussion, see also fn. 31, examples (iii-iv).)

- (41) *Lava *li* Tolstoja čita ili Fjodora Dostojevskog?
 Leo.acc Q Tolstoi.acc reads or Fyodor.acc Dostoevsky.acc
 ‘Does he/she read **Leo Tolstoi** or Fyodor Dostoevsky?’

This is unexpected under the PI analysis since on this analysis, the focus position follows *li* in the syntax. We would then expect it to be possible to have focus on the full NPs *Lava Tolstoja* and *skupe knjige*. It appears that nothing blocks the derivation on which these NPs occupy the focus position following *li* in the syntax, with PI placing *li* after the first stressed word of the focused constituent in PF.

- (42) a. Syntax: *li* [Lava Tolstoja] čita
 PF: Lava *li* Tolstoja čita?
 b. Syntax: *li* [skupe knjige] (Ana) čita
 PF: Skupe *li* knjige (Ana) čita?

The fact that focus is confined to the element preceding *li* can be readily accounted for on the analysis on which only syntax can provide a host for *li*. Under this analysis, *li* is the focus licenser in the constructions under consideration, so that only an element that is in the checking domain of *li*, which means preceding *li* in the syntax, can be focused.³¹

³¹King (1994) and Franks (1998a) claim that in Russian, which also has a 1W restriction on the element preceding *li* (see fn. 29), focus can be confined to the element following *li*. According to them, a sequence Adj-*li*-noun can have any of the readings given below, including the second reading, where the focus is restricted to the noun following *li*.

- (i) Novye *li* mašiny emu nraŭjatsja?
 new Q cars him.dat likes
 ‘Does he like **new** cars?’
 ‘Does he like new **cars**?’
 ‘Does he like **new cars**?’

My informant, however, disagrees with the judgment, accepting only the first reading. According to my informant, as in SC, the element preceding *li* must be focused in Russian. This is confirmed by the ungrammaticality of (ia-b),

I therefore conclude that the 1W restriction on the placement of SC *li* does not provide evidence for PI. It is syntactic movement, and not PI, that provides the host for SC *li*. Syntax then must be responsible for the impossibility of 1P placement of *li*, i.e. the ungrammaticality of constructions such as (34). How can we account for the 1W restriction on the placement of *li* by using syntactic means? If strong features are lexically specified for the way of checking (by head movement or phrasal movement), the 1W restriction can be easily accounted for. We can simply say that *li* is lexically specified as requiring checking through head adjunction. Notice that the elements that are checking the focus feature of *li* in the good examples in (32)-(40) are all plausibly analyzable as non-branching, which in Chomsky's (1995) system means that they are ambiguous

where we have a forced focus confinement to the element following *li*, as a result of the presence of *ili novye doma* in (iia) and the inherent unfocusability of the element preceding *li* in (iib). If focus could be restricted to the element following *li*, we would expect (iia-b) to be acceptable.

- (ii) a. *Novye *li* mašiny emu nra vjatsja ili novye doma?
 new Q cars him.dat likes or new houses
 'Does he like new **cars** or new houses?'
 b. *Kakuju-to *li* mašinu on prodal?
 some Q car he sold
 'Did he sell **some** car?'

My informant also rejects (iii), where the second conjunct forces the whole NP broken by *li* to be focused.

- (iii) a. *Novye *li* mašiny emu nra vjatsja ili starye doma?
 new Q cars him.dat likes or old houses
 'Does he like **new cars** or old houses?'
 b. cf. Novye *li* mašiny emu nra vjatsja ili starye?
 new Q cars him.dat likes or old
 'Does he like **new** cars or old cars?'

Notice that, as expected, SC behaves like Russian with respect to (ii)-(iii), as shown in (iv). I assume that the analysis of SC *li* proposed below can carry over to Russian *li*. (See also chapter 4 for discussion of Bulgarian *li*, which differs in important respects from SC and Russian *li*. Notice that given the discussion of Bulgarian *li* in chapter 4, for the analysis of SC *li* proposed below to carry over to Russian *li*, it is important that (iia-b), but not necessarily (iia), are ungrammatical. If there are speakers who accept (iia), their judgment could be accounted for along the lines suggested with respect to Bulgarian *li* in section 4.3.2. The same would hold for SC (ivc), if there are speakers who accept it.)

- (iv) a. *Nova *li* kola voli ili nove kuće?
 new Q cars likes or new houses
 'Does he/she like new **cars** or new houses?'
 b. *Neka *li* je kola kupio?
 some Q is car bought
 'Did he buy **some** car?'
 c. *Nova *li* kola voli ili stare kuće?
 new Q cars likes or old houses
 'Does he/she like **new cars** or old houses?'
 d. cf. Nova *li* kola voli ili stara?
 new Q cars likes or old
 'Does he/she like **new** cars or old cars?'

X^0/XP elements and therefore can undergo either X^0 or XP movement. (In fact, the two types of movement could be combined. The elements in question could move as XP s and end up adjoined to a head.³²) Let us consider whether this analysis is theoretically sound.

It is standardly assumed in the Minimalist Program that overt movement is driven by strong feature checking. In some cases strong features are checked through head movement and in some cases through phrasal movement to specifier. A question arises now whether we need to lexically specify every strong feature with information concerning whether it should be checked through head movement or phrasal movement. It appears that we do not need to do this, i.e. it appears that we can in principle allow every strong feature to be checked by either phrasal or head movement. Consider, for example, a typical case of checking through phrasal movement, namely *wh*-movement in English.

- (43) a. I wonder which woman John likes.
 b. I wonder who John likes.

It is standardly assumed that both of the above constructions involve checking through movement to a specifier position. The question arises whether anything would go wrong if we allowed the strong +*wh*-feature of *C* to be in principle checked by either phrasal movement (movement to SpecCP) or head movement (head adjunction to *C*). It appears that nothing would go wrong. The head movement option would be ruled out for (43a) for an independent reason: the element checking the strong +*wh*-feature of *C*, *which woman*, is not a head. (I assume that unambiguous XP s cannot appear inside X^0 s and that English does not allow movement of *which* alone.) What about (43b)? If *who* is a non-branching element, in Chomsky's (1995) system it would be considered ambiguous between a head and a maximal projection.³³ In that case it would be able to check the strong +*wh*-feature of *C* by either head movement or movement to SpecCP. It appears that nothing would go wrong if we allowed the first option in principle.

Consider now a case where a head needs to check two features, one in the spec-head configuration and one through head adjunction.

- (44) What can John buy?

The interrogative *C* in (44) appears to have a feature to check against both a +*wh*-element and against a verbal element. The first feature is checked by movement to SpecCP and the second feature is checked by head movement to *C*. Could the relevant features be checked by reversing

³²A variation of this analysis would be phrasal scrambling just below *li* followed by head movement to *li* from this position.

³³See, however, Bošković (1997a).

the checking relations, i.e. by checking the verbal feature of C by moving IP to SpecCP and the +wh-feature of C by head adjoining *what* to it? This would give us the ungrammatical construction below:

(45) *[John can buy t_i]_j what_i C t_j ?

Even if nothing goes wrong with the head movement of *what* to C (see in this respect Bošković 1998a), it appears that the construction can be ruled out as a violation of the Proper Binding Condition, or whatever the effects of this condition should follow from, the trace left by the movement of *what* not being c-commanded by *what*. (I am assuming here the first-branching-node definition of c-command.)³⁴

If all "improper" instances of checking could be ruled out by independently needed conditions we would not need to specify in the lexicon for every strong feature whether it should be checked through phrasal or head movement. If that is the case the easy way of accounting for the 1W restriction on *li*, namely by saying that *li* possesses a focal feature that can be checked only through head movement, would not be available. It appears, however, that no substantially deeper explanation for the curious behavior of *li* is available. I will therefore simply assume, slightly modifying the analysis suggested above, that SC *li* is defective in that it cannot support a specifier, which rules out the possibility of unambiguous phrasal elements moving to check the relevant feature of *li*. It is worth pointing out here that constructions involving *li* that are not interpreted as neutral yes-no questions sound somewhat archaic. It appears that the focus *li*-construction is disappearing from the language.³⁵ It is possible that the first step in removing the construction from SC is removing the ability of *li* to support a specifier, which greatly reduces the possibilities for checking the focal feature of *li*. Should this be interpreted as indicating that checking through head movement is the unmarked option? Possibly. (Notice that checking through head movement results in a shorter movement (i.e. fewer nodes crossed) than checking through movement to specifier.)

There is also some empirical evidence for the above analysis, which places the element preceding *li* in a C-adjoined position and attributes the 1W restriction on *li* to its inability to support a specifier.

Saša Vukić (personal communication) observes that (34a-b) improve in the past tense.

³⁴Some languages do, however, allow similar kind of remnant movement that fronts an XP with an unbound trace. See, for example, remnant topicalization constructions in German. VP fronting constructions in English might also involve remnant movement with the trace of the subject in SpecVP. (See Huang 1993. See also Saito and Murasugi 1993 and Oku 1998 for alternative analyses of such constructions.)

³⁵As noticed in fn. 27, there is some variation with respect to the focus *li*-construction, speakers differing with respect to the level of the productivity of the construction. Some speakers seem to allow only wh-elements to precede *li* in such constructions.

- (46) a. ?Čiju ženu *li je* volio?
 whose wife Q is loved
 ‘**Whose wife** did he love?’
 b. ?Skupe knjige *li je* čitala?
 expensive books Q is read
 ‘Did she read **expensive books**?’

This could be interpreted as a confirmation of the analysis suggested above. Suppose that *je* in (46) moves to C, right-adjoining to *li*. In addition to *li*, C would then contain an element which is not defective in the above sense, namely *je*.^{36 37}

That the element preceding *li* is located in the C-adjoined position rather than SpecCP is confirmed by *li*-constructions involving ellipsis. Lobeck (1990) and Saito and Murasugi (1990) claim that only functional heads that undergo spec-head agreement can license the ellipsis of their complement. Their claim is supported by constructions like (47a-f). (47a-f) show that the possessive 's and +wh-C, which according to Fukui and Speas (1986) undergo spec-head agreement, license ellipsis, whereas the non-agreeing functional categories, *the* and *that*, do not.

- (47) a. John's talk about the economy was interesting but [_{DP} Bill [_D 's e] was boring.
 b. *A single student came to the class because [_{DP} [_D the e] thought that it was important.
 c. John met someone but I don't know [_{CP} who [_C +wh-C e].
 d. *John thinks that Peter met someone but I don't believe [_{CP} [_C that e].

Significantly, SC *li* cannot license the ellipsis of its complement ("sluicing"). As shown in (48), sluicing is ungrammatical with *li*. (The relevance of sluicing for our current concerns has been

³⁶I will argue below that SC clitics do not have to be always located in C in the overt syntax. This does not affect the above argument, for which it suffices that the auxiliary clitic *je* can move overtly to C, at least in matrix questions. Notice also that depending on how exactly the defectiveness with respect to the ability to support a specifier is stated, movement of *je* to *li* might not have to be overt, i.e. it could be covert, in which case it would not have to necessarily involve rightward adjunction (see chapter 4 for much relevant discussion concerning the direction of head adjunction).

³⁷Interestingly, adding a pronominal clitic to *li* does not have the same effect as adding an auxiliary clitic.

- (i) *Skupe knjige *li mu* čita?
 expensive books Q him.dat reads
 ‘Does he/she read him **expensive books**?’

This could be interpreted as indicating either that pronominal clitics cannot support a specifier and therefore do not change anything with respect to the disability of *li* to do so or that pronominal clitics cannot move to C. The latter would mean that pronominal clitics are lower than auxiliary clitics in the syntax. Below, I provide evidence that this is indeed the case. I show that pronominal and auxiliary clitics do not cluster together in the syntax, as syntactic accounts of second position cliticization are forced to assume, the former being lower in the structure than the latter.

pointed out to me by Masao Ochi (personal communication).)

- (48) Vidi nekoga. *Koga *li* vidi?
 sees someone whom Q sees
 ‘He sees someone. Who?’

This could be interpreted as indicating that *li* does not undergo spec-head agreement with the element checking its focus feature, which is straightforwardly captured under the C-adjunction analysis. Notice also that sluicing is in principle possible in SC. The null C, which presumably undergoes spec-head agreement with the wh-phrase in (49), can license sluicing.³⁸

- (49) Vidi nekoga. Koga vidi?
 sees someone whom sees

Sandra Stjepanović (personal communication) notes that a potential interfering factor here is the ungrammaticality of English (50), with both SpecCP and C lexically filled in a sluicing construction.

- (50) John will see someone. *Who will ~~John~~ see?

However, Lasnik (1999) provides an analysis of such constructions that attributes its ungrammaticality to the application of S-Aux inversion with sluicing and makes it irrelevant to SC (48), where no S-Aux inversion takes place.

Notice also that (48) improves if an auxiliary that can support a specifier is added, as expected under the current analysis. The slightly degraded status of the construction might be relatable to English (50).³⁹

- (51) Vidio je nekoga. ??Koga *li je* vidio?
 seen is someone whom Q is seen
 ‘He saw someone. Who?’

Finally, notice that Bulgarian differs from SC in that it allows unambiguous phrasal material to occur in front of *li*, which in our terms means that Bulgarian *li* can take a specifier.

³⁸I will show below that SC wh-phrases do not have to move to SpecCP in null-C matrix questions. Nothing, however, prevents them from doing so (see Bošković 1997c). Stjepanović (1999b) in fact shows that in sluicing constructions, wh-movement to SpecCP must take place.

³⁹Sandra Stjepanović (personal communication), however, observes that (51) might involve VP ellipsis, with *je* located in I.

- (52) Novata kola li prodade Petko?
 new-the car Q sold Petko
 ‘Did Petko sell **the expensive car**?’

Significantly, Bulgarian *li* also allows ellipsis, as the constructions in (55), which seem analyzable only as instances of ellipsis, show. (The first four constructions are from Rudin 1986.)

- (53) Az li? Kūštata li? Dnes li? Na masata li? Novata kūšta li? Kogo li?
 I Q house-the Q today Q on table-the Q New-the house Q whom Q
 ‘Me?’ ‘The house?’ ‘Today?’ ‘On the table?’ ‘The new house?’ ‘Whom?’

This is expected under the current analysis. Given that the focused element can be located in SpecCP and thus can undergo spec-head agreement with *li*, ellipsis is licensed with Bulgarian *li*. The different behavior of Bulgarian and SC *li* with respect to the ability to follow unambiguous phrasal material and to license ellipsis thus receives a uniform account under the current analysis.

To summarize the discussion in section 2.2.1, the operation of PI has been proposed by Halpern to handle SC constructions in which syntax provides outputs with a second position enclitic located sentence initially. According to Halpern, PI then applies, moving the clitic after the first stressed word. In Halpern’s original analysis PI was assumed to apply quite extensively in SC. In a number of subsequent analyses assuming PI the domain of its application has been substantially reduced due to the Progovac (1996)/Wilder and Čavar (1994a) observations concerning movability of various elements in SC. In fact, recent proponents of PI for SC appear to have reduced the need for PI to constructions involving a participle preceding clitics, where it cannot be conclusively shown that we are dealing with PI since a number of alternative analyses are available and probably empirically superior (see the data discussed in Bošković 1995, 1997a), and constructions such as (20) and (25) (the PI argument for (25) is extendable to *li*-constructions in (32)-(35)), which appeared to be the only real empirical evidence for PI in SC. However, careful investigation of the constructions in question has shown that they do not provide any empirical support for PI. As discussed above, the data concerning complex PP splits and focus *li*-constructions in fact argue against PI. Given the lack of empirical evidence for PI in SC, as well as a number of empirical problems that the PI analysis faces, I conclude that the PI analysis is inadequate for SC and must be rejected. Since PI is the cornerstone of the weak syntax account of second position cliticization, this means that if the syntactic approach is to be maintained we are left with the strong syntax approach: the syntax should do the whole job without appealing to any phonological operations. I therefore concentrate on the strong syntax account from now on and put aside the weak syntax account.

2.2.2 The strong syntax approach

As noted above, the strong syntax account is crucially based on the assumptions in (2).

- (2) a. Clitics cluster together syntactically, i.e., clause-mate clitics are all located in the same position.
 b. The position is structurally fixed for all constructions.
 c. It is located high in the tree, so that there is no space for more than one element to occur in front of the clitic cluster within its clause.

In addition to (2a-c), it is necessary to ensure that clitics do not occur sentence initially. There are two ways of accomplishing this in the strong syntax approach to second position cliticization. I will call these the filtering and the non-filtering strong syntax approach.

2.2.2.1 Two types of strong syntax accounts. A non-filtering-strong-syntax account is proposed by Roberts (1994) (see also Dimitrova-Vulchanova 1995 and Rivero 1997). Roberts assumes that SC clitics are located in the head position of Voice Phrase, which functions as the complement of C. To account for the second position effect, he posits a strong feature in SC matrix C, which can be checked by either a head or a phrase of any type. SC embedded C does not have this checking requirement. The reason why we find only one element in front of clitics is strictly syntactic: one and only one element needs to move in front of a clitic to check the strong feature of matrix C. In embedded clauses nothing needs to move since lexically realized complementizers that introduce embedded clauses in SC, like *da* ‘that’, do not have this checking requirement. This account seems rather ad hoc. In particular, positing a feature that can be checked by just about anything, and either an XP or a head, is very ad hoc. I am not aware of any feature of this kind in any other language.

Filtering-strong-syntax accounts allow some phonological information, in particular, the enclitic status of the relevant elements, to be taken into consideration. One such account is proposed by Progovac (1996) (see also Rivero 1991, 1997 and Wilder and Čavar 1994a, b).

Progovac (1996) argues that one element needs to move in front of a clitic to ensure that the clitic is not stranded in sentence-initial position. This is the motivation for movement in front of a clitic in constructions where no independently motivated movement operation, such as *wh*-movement, or lexical insertion (of an overt complementizer) locates lexical material in front of the clitic. Constructions such as (54a) are then ruled out by the Last Resort Condition, which prohibits superfluous operations. Since the syntactically motivated operation of *wh*-movement has provided a host for the clitic, there is no need for participle preposing, the only motivation for the operation, according to Progovac, being to provide a host for clitics.⁴⁰

⁴⁰There is actually plenty of evidence against the last resort view of participle preposing (see Bošković 1995 and Embick and Izvorski 1997, among others). Notice, for example, that participles can optionally precede non-clitic

- (54) a. *Koga poljubio je Ivan?
 whom kissed is Ivan
 ‘Who did Ivan kiss?’
 b. Koga je poljubio Ivan?

Under this analysis, syntactic movement can be motivated by purely phonological considerations, more precisely, by providing a host for a phonologically weak element. If this were not the case even (55) would be ruled out by the Last Resort Condition in the syntax, because syntactically, participle preposing is completely superfluous under Progovac’s analysis.

- (55) Zaspao je Ivan.
 fallen-asleep is Ivan
 ‘Ivan fell asleep.’

Under Progovac’s analysis, we thus need to enable syntax to look ahead to the needs of phonology. This introduces considerable globality into the system. In the derivational model which Progovac adopts, it would certainly be preferable to achieve the desired result without having syntax look ahead to the needs of phonology. (In this particular respect, the PI analysis is conceptually more appealing since the rescuing movement operation takes place in the same component in which the deficiency driving the movement operates, namely PF, so that no look-ahead is needed).⁴¹

auxiliaries. Since the auxiliary in (i) is not a clitic, we cannot be dealing here with a last resort movement driven by the need to provide a host for a clitic.

- (i) a. Zaspao bejaše Petar.
 fallen-asleep was Petar
 ‘Petar had fallen asleep.’
 b. Bejaše zaspao Petar.

Macedonian, whose auxiliary and pronominal clitics clearly can be proclitics (see chapter 4), also has participle preposing in front of clitics, as shown by the following examples from Tomić (1996a). The grammaticality of (iia) then provides evidence that participle preposing in (iib) cannot be a last resort operation driven by the need to provide a host for clitics.

- (ii) a. Sum ja imal pročitano knjigata.
 am I have read book-the
 ‘I have reportedly finished reading the book.’
 b. Pročitano sum ja imal knjigata.
 read am I have book-the

⁴¹Wilder and Čavar (1994a, b) independently present a slightly different analysis from Progovac. Under their analysis, constructions involving participle preposing are the only constructions in which movement takes place in the overt syntax to provide a host for a clitic, which does not seem to be the case with Progovac’s analysis. Wilder and Čavar also differ from Progovac in that they suggest that there is a feature-checking requirement that forces the participle to adjoin to the auxiliary. According to them, the feature is weak so that the adjunction normally takes place

The alternative is not to have syntax look ahead to the needs of phonology and to let Last Resort operate globally, i.e., to assume that it suffices that at one point (not necessarily the point in which the relevant operation takes place), there is motivation for a certain operation to take place. We would then not need to have any phonological information available to the syntax to motivate movement in front of a clitic in constructions such as (55) under Progovac's analysis: Last Resort would be satisfied at the point when we find ourselves in the phonology. Needless to say, a global application of economy constraints such as Last Resort is conceptually extremely problematic. Recent work has also shown that it is simply untenable on empirical grounds, the local approach to economy of derivation being empirically more adequate than the global approach (see Bošković 2000a, Bošković and Takahashi 1998, Chomsky 1995, and Collins 1997, among others).

It should be emphasized here that under Progovac's analysis, as well as other filtering strong syntax analyses and all PI analyses, (56), with a sentence-initial clitic, is syntactically well-formed.

(56) **Je* poljubio Ana.
 is kissed Ana
 'He kissed Ana.'

The only way to rule out (56) under Progovac's analysis is to assume that it violates the phonological requirement that SC clitics are enclitics. Progovac's approach is thus not strictly syntactic: it requires phonology to have a filtering effect on syntax by ruling out some well-formed syntactic representations due to violations of phonological requirements on clitics. We will see below that once we fully embrace this filtering role of phonology, we can eliminate the globality required in Progovac's analysis.

We have seen above how the strong syntax account of second position cliticization works. Having examined some conceptual problems with this account I now turn to the assumptions in (2a-c), the empirical backbone of the strong syntax account.⁴² Bošković (1995, 1997a) and

in LF. In constructions such as (55), however, the adjunction takes place overtly in spite of Procrastinate to ensure that the enclitic has an appropriate host, i.e., to ensure that phonological requirements of the enclitic are satisfied. The data discussed in fn. 40 are as much of a problem for their analysis as they are for Progovac's. Like Progovac's analysis, this analysis also requires globality in that phonological information must be available to the syntax. One could argue that the same kind of globality is involved in Chomsky's (1993) proposal that strong features, which drive overt movement, are illegitimate PF objects, which implies that overt syntactic movement can take place for what are essentially phonological reasons, in particular, preventing derivation from crashing at PF. This globality was, however, one of the reasons for abandoning the PF theory of strong features. Instead, Chomsky (1995) defines strong features derivationally, i.e. as objects that cannot be tolerated by a derivation and therefore must be eliminated as soon as they are introduced into the structure. No look-ahead is required under this approach.

⁴²Recall that (2a-c) are also needed under the weak syntax account, where they are implemented in a slightly different fashion. Since this account has already been shown to be untenable I will confine myself to examining the validity of (2a-c) under the strong syntax account.

Stjepanović (1998a, b) have already questioned the validity of (2a-c). Their arguments will be summed up in the next section, where I also present new evidence against (2a-c). The general conclusion that the data discussed in the next section will lead me to is that conceptual problems aside, current strong syntax accounts of second position cliticization must be rejected on empirical grounds: they are simply fatally flawed empirically.

2.2.2.2 Empirical evidence against the strong syntax approach. 2.2.2.2.1 *Sentential adverbs.* The first piece of evidence that second position clitics do not have a structurally fixed position comes from the distribution of sentential adverbs. (The argument is given in Bošković (1995).) (57a) shows that the adverb *pravilno* ‘correctly’ is ambiguous between the manner and the sentential, subject-oriented adverb reading. Only the former reading is available when the participle precedes the adverb (57b-c), which indicates that the landing site of participle preposing is below sentential adverbs.

- (57) a. Jovan *je* *pravilno* odgovorio Mileni.
 Jovan is correctly answered Milena.dat
 ‘Jovan gave Milena a correct answer.’
 ‘Jovan did the right thing in answering Milena.’
- b. Odgovorio *je* *pravilno* Mileni.
 ‘He gave Milena a correct answer.’
 *‘He did the right thing in answering Milena.’
- c. Jovan *je* odgovorio *pravilno* Mileni.
 ‘Jovan gave Milena a correct answer.’
 *‘Jovan did the right thing in answering Milena.’

The fact that (57a) is ambiguous between the manner and the sentential reading of the adverb shows that when preceded by an XP, SC clitics can be higher not only than the attachment site of manner adverbs, which are generally assumed to be adjoined to VP (or AgroP under the Split-I Hypothesis), but also higher than the attachment site of sentential adverbs, which Bošković (1995) and Watanabe (1993) argue are adjoined to TP.⁴³ The non-ambiguity of (57b) shows that when preceded by a participle, SC clitics cannot be higher than sentential adverbs.

(57a-b) thus indicate that SC clitics are not always located in the same structural position.

⁴³The assumption provides a simple account of the paradigm in (i). Given that sentential adverbs are TP-adjoined, (ia-b), containing an unambiguously sentential adverb, can be accounted for by assuming that English modals can either remain in T or move to A_{grs} in the overt syntax.

- (i) a. John can probably play the guitar.
 b. John probably can play the guitar.

In (57a) the clitic must be higher than TP, the attachment site of sentential adverbs, and in (57b) it must be below TP. Adopting the strong-syntax-account assumption that SC clitics are always located in the same position would get us into a paradox with respect to the data in (57). (57a) would have to be interpreted as indicating that the position is higher than sentential adverbs and (57b) would have to be interpreted as indicating that the position is lower than sentential adverbs. Based on constructions such as (57a-b), I argued in Bošković (1995) that there is no fixed structural position for clitics in SC (see Bošković 1995 for another argument to this effect based on double-participle constructions).⁴⁴

(57b) also provides evidence against the assumption that SC clitics are always located very high in the tree. Recall that under the strong syntax account, placing clitics very high in the structure is a way of ensuring that there is not enough space for more than one element to precede SC clitics within their clause. Since most proponents of the strong syntax approach assume that SC clitics are located under C, I will take this position as the representative of this approach. Given that sentential adverbs clearly must be able to occur below C (cf. *Jovan će vjerovatno otići* ‘Jovan will probably leave’), (57b) also provides evidence that SC clitics can be lower than C. In fact, I show in Bošković (1995) that the auxiliary clitic in participle+auxiliary clitic constructions is located very low in the tree: it is located in the V node where it is generated, with the participle being adjoined to it. (See also Freeze 1992 for a convincing argument against locating second position clitics under C⁰ in Mayo.)

(58) [_{VP} Odgovorio_i je [_{VP} t_i Mileni]]
 answered is Milena.dat
 ‘He answered Milena.’

Notice that in principle, there is nothing wrong with verbal movement across sentential adverbs,

⁴⁴Following the line of argumentation employed in the argument from Bošković (1995) given above, Progovac (1999) provides additional evidence that SC clitics do not have a fixed structural position. She observes that SC clitics can occur either preceding or following event pronominal *to*. (In particular, clitics follow *to* in questions. See Progovac 1998a, 1999 for discussion of eventive *to*.)

- (i) a. *To mi je Stefan kupio knjigu.*
 that me.dat is Stefan bought book
 ‘What you see is that Stefan has bought me a book.’
 b. *Šta li si mu to kupio?*
 what Q are him.dat that bought
 ‘What is it that you bought him?’

Assuming that *to* has a fixed structural position, the above data provide evidence that SC clitics do not occur in a fixed structural position, just like the sentential adverb data from Bošković (1995). Also, given that, as argued in Progovac (1998a, 1999), *to* is located below C, (ia) provides evidence that SC clitics can be lower than C, just like Bošković’s (1995) sentential adverb data, as discussed below.

as indicated by the grammaticality of the French construction in (59a), where the verb moves to Agrs, and the Swedish V-2 construction in (59b), where the verb moves to C. In both cases the verb crosses a sentential adverb.

- (59) a. Jean répond correctement à Marie.
 Jean replies correctly to Marie
- b. Sin make_i har_j hon trolingen t_j inte sett t_i.
 her husband has she probably not seen
 ‘She probably has not seen her husband.’

As pointed out by Stjepanović (1998d), SC main verbs cannot cross sentential adverbs. However, they can cross VP adverbs. (Notice that the sentential reading is available in *Pravilno odgovara Mileni*.)

- (60) Odgovara pravilno Mileni.
 answers correctly Milena.dat
 ‘He/she is giving Milena a correct answer.’
 ‘*He/she is doing the right thing in answering Milena.’

Stjepanović interprets this as indicating that SC main verbs can move out of VP. However, they cannot move as high as Agrs overtly.⁴⁵ Assuming with Bošković (1995, 1997a) and Watanabe (1993) that sentential adverbs are adjoined to TP, Stjepanović claims that SC main verbs optionally move to T overtly. They then necessarily remain below sentential adverbs. That main verbs and auxiliaries differ with respect to the possibility of overt movement is not surprising (recall that auxiliaries can move above sentential adverbs). A similar situation is also found in English.

Let us now examine more closely the position of sentential adverbs in auxiliary+participle constructions, focusing on speaker-oriented sentential adverbs to avoid the ambiguity with the manner reading. In English, speaker-oriented sentential adverbs can occur either before or after the auxiliary in auxiliary+participle constructions.⁴⁶

- (61) a. They have probably beaten Peter.
 b. They probably have beaten Peter.

As noted in fn. 43, Watanabe (1993) and Bošković (1995) analyze these data by placing the adverb

⁴⁵As shown below, SC main verbs can actually undergo overt movement to a higher position in questions.

⁴⁶Cinque (1999) shows convincingly that Jackendoff’s (1972) class of speaker-oriented adverbs should be divided into several distinct classes. A fine-grained division is, however, not necessary for our purposes.

in the TP-adjoined position and assuming that the auxiliary can either remain in T or move to Agrs, crossing the adverb.

Turning now to SC, not surprisingly in light of the above discussion, the auxiliary in SC auxiliary+participle constructions can precede speaker-oriented sentential adverbs, as illustrated by the example in (62a). The example in (62b) shows that the auxiliary can also follow speaker-oriented sentential adverbs.⁴⁷

- (62) a. Oni *su* vjerovatno istukli Petra.
 they are probably beaten Petar
 ‘They probably beat Petar.’
 b. Vjerovatno *su* istukli Petra.
 probably are beaten Petar

The data in (62) can be accounted for by assuming that, as in English, the auxiliary in SC auxiliary+participle constructions can either stay in T or move to Agrs. (The auxiliary could actually be even lower than T in (62b), possibly in its base-generated position within the VP. For relevant discussion, see section 2.2.2.2.6 and chapter 3.) The proponents of the clitics-in-C analysis, however, must assume that the auxiliary is moving to C in both constructions. For them, the speaker-oriented adverb in (62b) then must be located in SpecCP. (Proponents of this analysis assume that SC subjects can either stay in SpecIP or move to SpecCP to account for constructions such as (62a).) Placing the adverb this high in the tree is not necessarily unreasonable. In fact, English provides evidence that the adverb in question can be pretty high in the tree, as indicated by the fact that it can precede subjects. (Notice, however, the ungrammaticality of **How probably have they beaten Peter?*)

- (63) Probably, they have beaten Peter.

In SC, however, the adverb in question cannot precede a subject in SpecIP.

- (64) a. *Vjerovatno oni *tuku* Petra.
 probably they beat Petar
 b. Oni vjerovatno *tuku* Petra

(64a) should be interpreted as indicating that, in contrast to English, in SC the adverb in question

⁴⁷I use pro-drop to avoid the second position effect. Note that placing the auxiliary before a speaker-oriented adverb might be preferable. Some contextualization is often necessary when the auxiliary follows a speaker-oriented adverb. (For example, as pointed out by Sandra Stjepanović (personal communication), (62b) could be preceded by something like *Petar je sav u modricama i veoma ih se plaši* ‘Petar is all bruised and very afraid of them’.)

must be located below the subject in SpecAgrsP, hence below SpecCP. It follows that clitics following the adverb in question must also be lower than C. We thus have another argument concerning sentential adverbs, not noted in Bošković (1995), that SC clitics can be lower than C, in fact, lower even than the AgrsP projection. More precisely, the data concerning sentential adverbs provide evidence that clitics following participles and sentential adverbs such as *probably* must be lower than C.

2.2.2.2.2 *Participle movement and overt C*. Another empirical argument that SC participles cannot move as high as C, as a result of which clitics that follow participles must be lower than C, is provided by yes-no questions with the question particle *li*, located under C. Consider (65):⁴⁸

- (65) a. Ljubi *li* njega?
 kisses Q him
 ‘Does he/she kiss him?’
 b. *Poljubila *li je* njega?
 kissed Q is him
 ‘Did she kiss him?’

The grammaticality of (65a), involving a finite verb serving as the host for the second position clitic *li*, shows that finite verbs can move to C in SC. On the other hand, the ungrammaticality of (65b) indicates that participles cannot move to C in SC. This is not surprising, given that crosslinguistically, in languages in which V-to-C movement clearly takes place in finite clauses only finite verbs move to C, which indicates that finiteness motivates the movement. Given that SC participles cannot move to C, it follows that clitics following a participle cannot be located under C.

It is worth mentioning here that the blocking effect of complementizers on participle preposing is sometimes taken as evidence that the landing site of participle movement is C (see Rivero 1991 and Wilder and Čavar 1994a, among others).

- (66) a. Otišao *je* juče.
 left is yesterday
 ‘He left yesterday.’
 b. *Jovan misli da otišao *je* juče.
 Jovan thinks that left is yesterday
 c. cf. Jovan misli da *je* otišao juče.
 Jovan thinks that is left yesterday

⁴⁸Notice that (65a-b) are not instances of the focus *li*-construction. They are neutral yes-no questions. (The ungrammaticality of (65b) was noted in Rivero 1993.)

The conclusion is clearly unwarranted. Note that under this line of reasoning, we are led to interpret the blocking effect of subjects (67a) on participle movement as evidence that the participle lands in SpecIP, and the blocking effect of *wh*-phrases on participle movement (67c) as evidence that the participle lands in SpecCP, which is clearly undesirable.

- (67) a. *Jovan otišao *je* juče.
 Jovan left is yesterday
 b. cf. Jovan *je* otišao juče.
 Jovan is left yesterday
 ‘Jovan left yesterday.’
 c. *Zašto otišao *je* juče?
 why left is yesterday
 d. cf. Zašto *je* otišao juče?
 why is left yesterday
 ‘Why did he leave yesterday?’

The ungrammaticality of (66b) simply illustrates the second position effect. As shown in Bošković (1995), when the auxiliary is not a clitic, the presence of an overt complementizer does not block participle movement, which indicates that the participle does not land in C.

- (68) On tvrdi da istukao bejaše Petrovog prijatelja.
 he claims that beaten was Petar’s friend
 ‘He claims that he had beaten Petar’s friend.’

Notice also that Embick and Izvorski (1997) claim that Bulgarian (69), which contains a clitic auxiliary that is not a second position clitic, is good.

- (69) Razbrah će pročel e knjigata.
 understood that read is book-the
 ‘I understood that he had read the book.’

2.2.2.2.3 *Wh-superiority*. Returning to second position cliticization in SC, another argument that SC clitics do not have to be located under C comes from the syntax of *wh*-questions in SC. Rudin (1988) claims that SC multiple questions are not sensitive to the Superiority Condition. However, in Bošković (1997b, 1999, 2000a) I show that SC does exhibit Superiority effects in certain contexts. In particular, SC exhibits Superiority effects exactly in those contexts in which French must have *wh*-movement, namely, in long-distance questions, embedded questions, and root

questions with lexical complementizers.⁴⁹

- (70) a. Ko *je* šta prodao?
 who is what sold
 ‘Who sold what?’
 b. Šta *je* ko prodao?
- (71) a. [Ko koga voli], taj o njemu i govori.
 who whom loves that-one about him even talks
 ‘Everyone talks about the person they love.’
 b. *[Koga ko voli], taj o njemu/o njemu taj i govori.
- (72) a. (?)Ima ko šta da *ti* proda.
 has who what that you.dat sell
 ‘There is someone who can sell you something.’
 b. *Ima šta ko da *ti* proda.
- (73) a. Ko *si* koga tvrdio da *je* istukao?
 who are whom claimed that is beaten
 ‘Who did you claim beat who?’
 b. *Koga *si* ko tvrdio da *je* istukao?
- (74) a. Ko *li* šta kupuje?
 who C what buys
 ‘Who on earth buys what?’
 b. *Šta *li* ko kupuje?
- (75) Tu as embrassé qui?
 you have kissed whom
 ‘Who did you kiss?’
- (76) a. *Pierre a demandé tu as embrassé qui.
 Pierre has asked you have kissed whom
 b. Pierre a demandé qui tu as embrassé.
- (77) a. *Jean et Marie croient que Pierre a embrassé qui?
 Jean and Marie believe that Pierre has kissed whom
 b. cf. Qui Jean et Marie croient-ils que Pierre a embrassé?

⁴⁹I ignore here the irrelevant echo-question reading. Note that I do not give indirect questions as examples of embedded questions in SC because such questions involve an interfering factor. Indirect questions formally do not differ at all from matrix questions in SC. As a result, there is always a danger that they could be analyzed as matrix questions, with the superficial matrix clause treated as an adsentential. The problem does not arise with the correlatives in (71) and the existentials in (72), whose embedded clauses are syntactic questions, as shown by Izvorski (1996, 1998). (Note, however, that I show in Bošković 1997b that when the potentially interfering factor noted above is controlled for, true indirect questions in SC also exhibit Superiority effects.) Note also that overt-C questions are not accepted in all dialects of French.

- (78) a. *Que tu as vu qui?
 C you have seen whom
 ‘Who did you see?’
 b. Qui que tu as vu?

To account for the parallelism between the contexts in which SC exhibits Superiority effects and the contexts in which French must have wh-movement, I proposed in Bošković (1997b, 2000a) that SC is a French-type language with respect to when it must have wh-movement: like French, SC must have wh-movement in long-distance, embedded, and overt-C root questions, but not in short-distance null-C root questions. SC wh-movement is then well-behaved with respect to Superiority: SC exhibits Superiority effects whenever it has wh-movement. The only difference between SC and French is that even the wh-phrases that do not move overtly to SpecCP still must be fronted in SC. This also holds for echo wh-phrases (note the ungrammaticality of **On kupa je šta* ‘He buys what’ on the echo-question reading), which indicates that the fronting is independent of the +wh-feature. Following Stjepanović (1995), I argue that SC wh-phrases not located in SpecCP overtly must move to a special focus position, located above VP but below the CP projection (see Bošković 1998c, 1999 for explanation why this focus movement does not exhibit Superiority effects). I argue that the CP projection does not even have to be present overtly in (70) and (75). Since the complementizer is phonologically null and located at the top of the tree nothing in the current framework prevents it from entering the structure in LF in such constructions, given Chomsky’s (1995) derivational approach to strength, where strong features are defined as elements that must be eliminated immediately upon insertion into the structure. (I assume that the interrogative C in SC and French has a strong +wh-feature. If this were not the case it would not be possible ever to force overt wh-movement in these languages.) The reason why matrix short-distance null-C questions in SC and French do not have to involve overt wh-movement is then trivial: its trigger (C) does not have to be present overtly. I argue that the LF C-insertion derivation is the only way for French and SC to avoid overt wh-movement. (Overt C-insertion triggers overt wh-movement.) In constructions in which wh-movement is forced, the derivation is blocked. With embedded questions, the LF C-insertion derivation is blocked because it would involve merger of the complementizer in an embedded position, which is disallowed, merger being allowed to take place only at the top of the tree. With overt complementizers, the derivation is blocked because phonologically overt elements cannot enter the structure in LF. If they do the derivation crashes due to the presence of phonological information in LF. I also show that with long-distance questions, the LF C-insertion derivation fails. For an explanation, which is a bit involved, see Bošković (1997b, 2000a).

In conclusion, in French and SC matrix short-distance null C questions the interrogative CP projection can be inserted in LF. As a result, wh-movement (i.e. movement to SpecCP) does not have to take place overtly in such questions. This is what ‘licenses’ wh-in-situ in French, and

explains the lack of Superiority effects in the relevant constructions in SC, which needs to front all wh-phrases independently of the +wh-feature. Given this analysis, we are led to the conclusion that the initial wh-phrase in constructions such as (70b) must be located in a position that is lower than the C projection overtly. It follows then that the clitic must be lower than C too (see chapter 3 for a more detailed discussion of clitic placement in multiple questions).

2.2.2.2.4 *Coordination*. Another argument for my contention that SC clitics can occur below C is provided by Wilder and Čavar (1997) based on certain facts concerning coordination. Wilder and Čavar examine coordinating constructions containing clitics, such as (79).

- (79) Ivan *je* kupio auto i razbio *ga*.
 Ivan is bought car and ruined it
 ‘Ivan bought a car and ruined it.’

They consider two possibilities for the level of coordination in (79): CP-coordination and VP-coordination. (They note that under the Split-I Hypothesis the latter could involve coordination on a slightly higher level, for example, AgroP coordination.) The VP coordination analysis is consistent with the weak phonology approach to SC second position cliticization developed in Bošković (1995; see also section 2.3.2 below), which allows SC second position clitics to be located very low in the tree. On the other hand, Wilder and Čavar observe that under the strong syntax approach, which places SC second position clitics under C, (79) must involve CP coordination, since the pronominal clitic is located in C. Wilder and Čavar observe that if the second conjunct is a CP, it must contain a deleted auxiliary. A deleted auxiliary does not have to be present in the second conjunct under the VP coordination analysis.

- (80) a. [_{CP} Ivan *je* kupio auto] i [_{CP} [_{C⁰} razbio *ga je*] [_{IP} pro...]]
 b. [_{CP} Ivan *je* [_{VP} kupio auto] i [_{VP} razbio *ga*]]

Wilder and Čavar observe that the deletion of the auxiliary in (80a) should not be allowed. It violates the condition on ellipsis in (81), whose effect is illustrated by impossibility of deleting the clitic in the second conjunct of Spanish (82a).

(81) No part of an X⁰ may be deleted (forward deletion)

- (82) a. *Juan lo compró y Javier ~~lo~~ leyó.
 Juan it bought and Javier it read
 ‘Juan bought it and Javier read it.’
 b. cf. Juan lo compró y Javier lo leyó.

It also violates Wilder’s (1997b) condition on forward deletion given in (83), since the auxiliary

is preceded and presumably c-commanded by the participle. The effect of the condition is illustrated by (84). ((84b-c) are from SC. Notice that a parallelism constraint on deletion requires that the deletee's position is the same as the antecedent's.) For more empirical evidence for the condition, see Wilder (1997b) and Wilder and Čavar (1997).⁵⁰

(83) *Head Condition*: no constituent can be deleted that is c-commanded by an overt X^0 in its conjunct at S-Structure.

(84) a. *John has bought Mary a book and given ~~Mary a book~~.

b. *Ivan kupuje Mariji knjige i daje ~~Mariji knjige~~.

Ivan buys Marija books and gives Marija books

c. cf. Ivan Mariji knjige kupuje i ~~Mariji knjige~~ daje.

Wilder and Čavar observe that none of the above problems arise under the VP coordination analysis of (79) since if the second conjunct is a VP (or AgroP for that matter), it does not have to contain a deleted auxiliary. Based on this, Wilder and Čavar conclude that a VP containing a verb and a clitic is well-formed in SC, which indicates that SC clitics can be located below C.

2.2.2.2.5 *Gerunds*. Caink (1998, 1999a) observes that SC gerunds can contain clitics (see (85a)) though, according to him, they are "smaller" than CPs. One of Caink's arguments for the latter claim concerns the impossibility of wh-movement within gerunds, illustrated in (85b). (Caink argues that SC gerunds are bare VPs (possibly AgroPs in the Split-I framework).)

(85) a. Dajući joj poklon, Jovan se izvinio.

giving her present Jovan self apologized

'Giving her a present, Jovan apologized.'

b. *knjiga koju_i čitajući t_i Jovan je zaspao.

book which reading Jovan is fallen-asleep

Since gerunds are smaller than CPs, clitics contained in gerunds, then, cannot be in C.

2.2.2.2.6 *Split-clitics constructions*. Having seen evidence against assumptions (2b) and (2c), let us turn to the third assumption that is crucial to the strong syntax account, namely that SC clitics cluster together under the same node in the syntax (assumption (2a)).⁵¹ Stjepanović (1998a, b) provides evidence against this assumption based on VP ellipsis. Stjepanović argues that

⁵⁰Notice that I assume that (81) and (83) apply to ellipsis deletion, but not to copy deletion, discussed in chapter 3.

⁵¹As discussed in fn. 37, additional evidence against the assumption is provided by certain data concerning the focus *li*-construction, which can be interpreted as indicating that auxiliary clitics are higher than pronominal clitics in the syntax. This is in fact the conclusion I reach below on independent grounds.

constructions like (86) involve VP ellipsis:⁵²

- (86) Oni *su* kupili novine, a i vi *ste* (takodje).
 they are bought newspapers and also you are too
 ‘They bought newspapers and you did too.’

She observes that VP ellipsis in SC can delete part of a clitic cluster, leaving some clitics behind.

- (87) Mi *smo mu ga* dali, a i vi *ste* (takodje).
 we are him.dat it.acc given and also you are too
 ‘We gave it to him, and you did too.’

The possibility of VP ellipsis in (87) raises a serious problem for the assumption that clitics cluster under the same node in SC, which is crucial to the strong syntax account of the second position effect. Under this assumption, (87) has to involve deletion of a non-constituent, which is standardly assumed not to be possible. Stjepanović interprets the grammaticality of (87) as evidence that SC

⁵²Stjepanović observes that there is some variation among speakers in the acceptance of sentences containing a clitic preceding a deletion site. (Most speakers accept them though. Stjepanović reports that five out of her six informants accepted them.) She relates this to the often-observed phenomenon that sentences degrade when a phonologically weak element precedes a gap. (For example, English weak auxiliary *'s* cannot occur before a gap, as shown by **I wonder where John's tonight*.)

Progovac (1998d) argues that constructions such as (86) involve a base-generated null VP. Progovac's analysis differs from Stjepanović's in that, in contrast to Stjepanović, who argues that in (86) we are dealing with an instance of surface anaphora in the sense of Hankamer and Sag (1976), Progovac treats (86) as involving deep anaphora. There is, however, some evidence that such constructions at least may involve surface anaphora. In particular, such constructions pass Grinder and Postal's (1971) missing-antecedent test, as shown by the data in (i):

- (i) Ja nikad nisam jahao kamilu, a Jovan jeste, i kaže da *pro_i* je strašno smrdjela.
 I never not+am ridden camel, but Jovan IS, and says that *it* is terribly stunk
 ‘I have never ridden a camel, but Jovan has, and he says it stank terribly’
 (ii) **Ja nikad nisam jahao kamilu, i pro_i strašno je smrdjela.*

The null subject *pro* in (i) can be co-indexed with the indefinite NP. The indefinite NP in the first sentence of (i) cannot serve as its binder, as shown by the ungrammaticality of (ii) on the relevant reading. The antecedent of *pro* must then be provided by the second sentence in (i), which in turn provides evidence that the missing VP at some level has internal structure that can provide an antecedent for *pro*; the VP cannot be completely null without any internal structure. Notice that SC constructions in question in this respect pattern with English VP ellipsis, an instance of surface anaphora according to Hankamer and Sag (1976), and not with the *do it* pro-from, an instance of deep anaphora. ((iia-b) are from Hankamer and Sag.) For additional arguments against the null VP analysis, see Stjepanović (1998b, 1999a).

- (iii) a. I've never ridden a camel, but John has, and he says it, stank terribly.
 b. **I've never ridden a camel, and it, stank terribly.*
 c. **I've never ridden a camel, but John did it, and it, stank terribly.*

clitics do not have to be located under the same node in the syntax, i.e., they can be located in separate maximal projections. (87) can then be analyzed as involving constituent deletion.

Stjepanović notes that (87) also provides evidence that SC clitics can be located pretty low in the tree. If they had to be located very high in the tree, as is assumed under the strong syntax account, we would not expect it to be possible to affect them by the process of VP deletion.

There are also constructions in which clitics are present in the final representation of the sentence (i.e. they are not elided) and still do not have to be adjacent to each other.⁵³ One such construction is given in (88), where the presence of a parenthetical makes a clitic split possible:

- (88) ?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.’

I will discuss (88) in more detail in section 2.3.2, where I examine environments in which such constructions are allowed. For our current concerns, it suffices to observe that the clause-mate clitics *su* and *se* in (88) clearly cannot be located in the same head position (see fn. 91 for another example of this type). The acceptability of the construction thus provides strong evidence against the assumption, crucial to syntactic accounts of second position cliticization, that SC clitics cluster together in the same position in the syntax.

Another type of construction in which clause-mate clitics are not adjacent to each other is noted in Ćavar (in preparation) (see also Wilder and Ćavar 1997 and Franks and King 2000). Ćavar observes that speakers who allow VP fronting with auxiliary clitics also allow VP fronting to split the clitic cluster, which clearly shows that clause-mate clitics do not have to cluster together. He gives the following construction.

- (89) Dali *ga* Mariji *su* Ivan i Stipe.
 given it.acc Marija.dat are Ivan and Stipe
 ‘Give it to Marija, Ivan and Stipe did.’

A different type of argument that SC clitics are not located in the same position in the syntax is provided by subject-oriented sentential adverbs. We have seen in section 2.2.2.1 that auxiliary clitics can be higher than such adverbs, as indicated by the availability of the sentential-subject reading in (90a,c). Significantly, pronominal object clitics cannot occur above subject-oriented adverbs. (90b,d) are fully acceptable only on the manner reading.

⁵³See Franks (1998a, 1999) and Franks and King (2000) for a potential interfering factor concerning VP ellipsis constructions that does not arise with split-clitics constructions where VP ellipsis does not take place. See also Stjepanović (1999a) for a response to these authors’ point.

- (90) a. 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.’
- b. Oni *su joj* pravilno odgovorili.
 they are her.dat correctly answered
 ‘*They did the right thing in answering her.’
 ‘They gave her a correct answer.’
- c. Oni *su* mudro prodali auto.
 they are wisely sold car
 ‘It was wise of them to sell the car.’
 ‘They sold the car in a wise manner.’
- d. Oni *su ga* mudro prodali.
 they are it.acc wisely sold
 ‘*It was wise of them to sell it.’
 ‘They sold it in a wise manner.’

Apparently, auxiliary clitics can occur higher than subject-oriented adverbs. Pronominal object clitics, on the other hand, cannot. It must then be the case that the two do not occur in the same structural position. Given that, as suggested in Watanabe (1993) and Bošković (1995, 1997a), subject-oriented adverbs are TP-adjoined, the data under consideration can be accounted for if auxiliary clitics can move to Agrs, which is higher than TP, and pronominal object clitics are located in their Case-checking agreement projection (AgroP), which is lower than TP. For relevant discussion, see section 2.2.2.2.7 and chapter 3.⁵⁴

⁵⁴Interestingly, speaker-oriented sentential adverbs seem better than subject-oriented adverbs in a position below a pronominal object clitic.

- (i) a. ?Oni *su mu* vjerovatno odgovorili.
 they are him.dat probably answered
 ‘They probably answered him.’
- b. ?Oni *su ga* vjerovatno prodali.
 they are it.acc probably sold
 ‘They probably sold it.’

There is, however, potential interference here from the non-sentential adverb reading of *vjerovatno*, on which, according to Belletti (1990), the adverb is adjoined to the phrase it modifies. In fact, (ia-b) seem to be relatively acceptable only on this, "constituent adverb" reading, though the judgment is not completely clear, the relevant readings not being easy to tease apart. (If (ia-b) were acceptable on the true sentential adverb reading of *probably* we would have to assume that speaker-oriented adverbs can occur below TP, possibly in a lower SpecAgroP under a multiple-specifiers analysis (given that the pronominal clitic is located in SpecAgroP, as discussed in the next section) or even within or adjoined to the VP headed by the auxiliary in its base-generated position, which, according to den Dikken (1994), at least can be below AgroP. See, however, Jackendoff (1972) and Cinque (1999), where it is claimed

Given that auxiliary clitics occur, or at least can occur, above subject-oriented adverbs and that pronominal object clitics occur below such adverbs, the ungrammaticality of constructions like (91) becomes interesting.

- (91) a. *Oni *su* pravilno *joj* odgovorili.
 they are correctly her.dat answered
 b. *Oni *su* mudro *ga* prodali.
 they are wisely it.acc sold

In section 2.3.2 I argue that there is nothing wrong with such constructions syntactically. I argue that the constructions are ruled out due to certain phonological requirements on second position clitics.

In the context of the current discussion it is also worth mentioning Bošković's (1999) conclusions concerning multiple movement to the same position. In Bošković (1999) I examine several instances of multiple attraction whereby a number of elements are moved to the same position. I observe that with such movement, the order of moved elements is either completely free or the highest element prior to the movement is required to occur first, with other elements being freely ordered. The former situation is illustrated by the multiple wh-fronting data from SC in (92) and the latter situation is illustrated by the multiple wh-fronting data from Bulgarian in (93). (As discussed in Rudin 1988, Bošković 1997d, 1998b, c, 1999, and Richards 1997, the wh-phrase that is first in the linear order is the one that moves first in Bulgarian, a language which places all fronted wh-phrases in SpecCP. Other wh-phrases either undergo rightward adjunction to SpecCP or move to a lower SpecCP, depending on whether the multiple-specifiers analysis is adopted or not.)

- (92) a. Ko koga gleda?
 who whom watches
 'Who watches who?'
 b. Koga ko gleda?
 (93) a. Kogo kakvo e pital Ivan?
 whom what is asked Ivan
 'Who did Ivan ask what?'
 b. ?*Kakvo kogo e pital Ivan?
 c. Koj kogo kakvo e pital?
 who whom what is asked
 'Who asked who what?'

d. Koj kakvo kogo e pital?

In Bošković (1998c, 1999) I propose an analysis of the SC and Bulgarian data in question that predicts that whenever multiple movement to the same position takes place, the order of movement will be either free or the highest element prior to the movement will be forced to move first with the order of the movement of other elements being free. Given the analysis, the fact that all clitics in SC are subject to strict ordering constraints leads me to conclude that they are not moving to the same position. If they were, we would expect substantial freedom in clitic ordering, which we do not find. The strict ordering of clitics in SC can be readily accounted for if the clitics are moving to distinct functional projections, which are hierarchically arranged (see the discussion in the following section).

2.2.2.2.7 *Order of clitics*. In the previous section we have seen that auxiliary clitics are located higher in the structure than pronominal clitics. Thus, VP ellipsis and VP preposing can affect pronominal clitics without affecting auxiliary clitics (see (94a) and (95a) respectively). In the parenthetic-split-clitics construction, auxiliary clitics are also clearly higher than pronominal clitics (96a). Finally, auxiliary clitics can occur higher than subject-oriented adverbs, while pronominal clitics must be lower than such adverbs (see (90) above. See also fn. 37 for relevant discussion). Notice also that if VP ellipsis and VP preposing affect the pronominal clitic without affecting the auxiliary clitic we get ungrammatical constructions (see (94b) and (95b) respectively). Switching the order of clitics in the parenthetic-split-clitics construction has the same effect (96b).

(94) a. Vi *ste ga* poljubili, a i mi *sma ga* — poljubili.

you are him.acc kissed, and also we are him.acc kissed
'You kissed him, and we did too.'

b. *Vi *ste ga* poljubili, a i mi *ga sma* poljubili.

you are him.acc kissed, and also we him.acc are kissed

(95) a. Dali *ga* Mariji *su* Ivan i Stipe.

given it.acc Marija.dat are Ivan and Stipe
'Give it to Marija, Ivan and Stipe did.'

b. *Dali *su* Mariji *ga* Ivan i Stipe.

(96) 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.

All this clearly shows that auxiliary clitics and pronominal clitics are not located in the same head position and that auxiliary clitics are structurally higher than pronominal clitics. This is not surprising given that auxiliary clitics precede pronominal clitics in the clitic cluster.

Recall, however, that one auxiliary clitic, namely the third person singular *je*, differs from other auxiliary clitics in that it must follow pronominal clitics (97). The above tests, however, show that like other auxiliary clitics, *je* is structurally higher than pronominal clitics. Thus, as observed by Progovac (1998d) and Stjepanović (1998a, b), *je* can be left behind by VP ellipsis (98a). The same holds for VP preposing (99a). Affecting *je* by VP ellipsis and VP preposing while leaving behind pronominal clitics results in ungrammaticality (see (98b) and (99b) respectively). In the parenthetic-split-clitics constructions *je* also must precede pronominal clitics ((100)-(101)). Finally, as noted above, in contrast to pronominal clitics, *je* can be higher than subject-oriented adverbs (see (57a) and (102)).

(97) Ona *mu ga je* predstavila.

she him.dat him.acc is introduced

‘She introduced him to him.’

(98) a. 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.’

b. *Ona *mu ga je* predstavila, a *i on mu ga je* predstavio.

(99) a. Dao *ga Mariji je* Ivan.

given it.acc Marija.dat is Ivan

‘Give it to Marija, Ivan did.’

b. *Dao *je Mariji ga* Ivan.

(100) ?#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.’

(101) *#On *se*, #kao što *sam vam* rekla#, predstavio *je* Petru#.

(57) a. Jovan *je* pravilno odgovorio Mileni.

Jovan is correctly answered Milena.dat

‘Jovan gave Milena a correct answer.’

‘Jovan did the right thing in answering Milena.’

(102) On *joj je* pravilno odgovorio.

he her.dat is correctly answered

‘*He did the right thing in answering her.’

‘He gave her a correct answer.’

All this indicates that like other auxiliary clitics, *je* is higher than pronominal clitics in the syntax.⁵⁵

⁵⁵The above constructions provide strong evidence against analyses such as Tomić (1996a) (see also Franks and Progovac 1994 and Franks and King 2000), who attempts to account for the fact that, in contrast to other auxiliary clitics, *je* follows pronominal clitics by placing *je* and other auxiliary clitics in different positions syntactically, in

This is the conclusion Stjepanović (1998a, b) draws on the basis of the contrast between (97) and (98). The parenthetic-split-clitics, VP fronting, and subject-oriented adverbs data confirm the conclusion. Stjepanović suggests that a low-level PF process is responsible for the fact that *je* follows pronominal clitics on the surface. (Whatever the process is, it must follow PF ellipsis.) In section 3.2 we will investigate this process in more detail. We will see that there is no need to assume any kind of PF movement to account for the dual behavior of *je* concerning its ordering with respect to pronominal clitics in the syntax and the final PF representation.

What about the order of pronominal clitics with respect to each other? The first question that needs to be answered is whether pronominal clitics need to cluster together in the syntax. We have seen that syntactically, they do not cluster together with auxiliary clitics. The question that arises is whether they cluster with each other. If they do not, barring any low level PF effects on the linear order of clitics, as in the case of *je*, we would expect the order of pronominal clitics with respect to each other to mirror the hierarchical order of functional projections in which they are located. The order of clitics within the clitic cluster is as given in (103).

(103) *li-aux-dat-acc-gen-self-je*

I will first consider the order of the dative and the accusative clitic. Given that the dative clitic precedes the accusative clitic, if the two clitics do not have to cluster together syntactically we would expect the position in which the dative clitic is located to be higher than the position in which the accusative clitic is located.

Most speakers find parenthetic-split-clitics constructions with a dative and an accusative clitic split by a parenthetical somewhat degraded even when the dative precedes the accusative.

(104) ??*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.’

This can be interpreted as indicating either that the dative and the accusative clitic must cluster together or that the dative clitic and the accusative clitic do not cluster together but that the parenthetical and the participle cannot occur (or are able to do so only marginally) between the surface positions of these clitics. The fact that (104) is better than (105) suggests that the latter analysis is on the right track. (105) can then involve an additional violation (placing the accusative clitic above the dative clitic.)

particular, by placing *je* below pronominal clitics and other auxiliary clitics above pronominal clitics. The data in (98)-(102) clearly show that *je* must be higher than pronominal clitics in the syntax (see section 3.2 for more detailed discussion).

(105) **Oni su ga, kao što sam vam rekla, predstavili mu juče.*

Damir Ćavar (personal communication) informs me that speakers who find VP preposing split clitics constructions such as (89) acceptable do not allow VP preposing to split pronominal clitics.

(106) **Predstavili ga Ivan i Stipe su mu juče.*
 introduced him.acc Ivan and Stipe are him.dat yesterday
 ‘Introduce him to him Ivan and Stipe did yesterday.’

As with respect to (104)-(105), the ungrammaticality of (106) can be interpreted as indicating either that pronominal clitics must cluster together or that pronominal clitics do not have to cluster together but that the process involved in deriving (106) cannot target a projection that contains one, but not both pronominal clitics. (I have called the process in question VP preposing. It is, however, possible that the process actually affects some functional projection above VP. I will continue to use the term VP preposing for ease of exposition.)

Constructions in which VP preposing affects the dative clitic and leaves behind the accusative clitic are even worse than (106).

(107) ***Predstavili mu Ivan i Stipe su ga juče.*

This indicates that the second analysis suggested above, on which the ungrammaticality of (106) is attributed to the impossibility of VP preposing affecting a projection located between the surface position of the dative and the accusative clitic, is on the right track. This analysis readily explains the contrast between (106) and (107). The contrast is, however, difficult to capture under the analysis that attributes the ungrammaticality of (106) to the requirement that the dative and the accusative clitic must cluster together in the syntax.

Let us finally consider VP ellipsis. (As with VP preposing, it is possible that the process actually affects a phrase higher than VP. I will continue to use the term VP ellipsis for ease of exposition.) Stjepanović (1998a, b) claims that constructions in which VP ellipsis leaves behind a dative clitic while eliding an accusative clitic are acceptable, whereas constructions in which VP ellipsis strands an accusative clitic and elides a dative clitic are unacceptable.

(108) a. ?*Mi smo mu ga dali, a i vi ste mu ga—dali* (takodje).
 we are him.dat it.acc given and also you are him.dat it.acc given too
 b. **Mi smo mu ga dali, a i vi ste ga mu—dali* (takodje).

In my judgment, both constructions in (108) are at least somewhat degraded. However, I agree with

Stjepanović that (108a) is clearly better than (108b). Stjepanović interprets the contrast as indicating that the dative and the accusative clitic are located in different maximal projections, the dative clitic being structurally higher than the accusative clitic. More precisely, she proposes that the dative clitic is located in Agr_{IO}P and the accusative clitic in Agr_{DO}P, Agr_{IO}P being structurally higher than Agr_{DO}P. Another possibility in the multiple-specifiers framework which would also account for the above facts is that the dative and the accusative clitic are located in distinct specifiers of the same head, possibly Agr_o or Chomsky's (1995) *v*, with the dative clitic being located in the higher and the accusative clitic in the lower specifier.⁵⁶

In this context, Klaus Abels (personal communication) observes the ungrammaticality of (109), which illustrates Browne's (1975) observation that second position clitics cannot occur as complements of prepositions in SC.

- (109) *Prema *mu* trče.
 toward him.dat run
 'They are running toward him.'

The ungrammaticality of constructions like (109) can be interpreted as a confirmation of the claim that SC pronominal clitics must move to their Case-checking positions overtly. Suppose that Case-checking within a traditional PP takes place in an AgrP dominating the PP. (See Watanabe 1993. This is on a par with Case-checking "within" VP and TP.) The problem with (109) is then that the clitic did not move to its Case-checking position overtly. (The problem does not arise in (9c), where I assume *Mileni* does not have to move to its Case-checking position overtly.) Notice also that moving the clitic in (109) to SpecAgr_{PP} overtly cannot help us derive a grammatical construction, given that preposition stranding is not possible in SC.

- (110) *da [_{Agr_{PP}} *mu*_i [_{VP} prema *t*_i]] trče.
 that him.dat toward run

Returning now to the relative height of dative and accusative clitics, Stjepanović (1998b)

⁵⁶For an alternative, null VP analysis of the data under consideration, see Progovac (1998d). Progovac notes that leaving both pronominal clitics stranded by VP ellipsis leads to ungrammaticality, as in (i), which is potentially problematic for Stjepanović's analysis, who needs an additional stipulation to account for this. Thus, Stjepanović could assume that AgrPs (Agr_{IO}P or Agr_{DO}P) can be elided, but not "bare" VPs. (For a plausible alternative, see Stjepanović 1998b, 1999a. Notice that Progovac is also forced to adopt a stipulation concerning which elements count as governors to account for (i) under her analysis. See also fn. 52 for evidence favoring the VP ellipsis analysis over the null VP analysis.)

- (i) *Mi *smo mu ga dali*, a *i vi ste mu ga dali* (takodje).
 we are him.dat it.acc given and also you are him.dat it.acc given too
 'We gave it to him, and you did too.'

confirms her conclusion regarding the issue by certain data concerning clitic climbing. Progovac (1993) shows that clitic climbing is marginally possible out of the finite clausal complement embedded under verbs like *željati* ‘want’, as shown in (111a-b) (see also section 2.3.1). Stjepanović observes that if the *da*-clause embedded under *željati* contains two pronominal clitics, it is possible to climb only one of the clitics into the matrix clause. When this happens in constructions containing a dative and an accusative clitic, the dative clitic is the one that moves into the matrix clause (see 111e-f).⁵⁷

- (111) a. Milan želi da ga vidi.
 Milan wants that him sees
 ‘Milan wants to see him.’
 b. ?Milan ga želi da vidi.
 c. Marija želi da mu ga predstavi.
 Marija wants that him.dat him.acc introduces
 ‘Marija wants to introduce him to him.’
 d. ?Marija mu ga želi da predstavi.
 e. ?Marija mu želi da ga predstavi.
 f. *Marija ga želi da mu predstavi.

Stjepanović argues that the contrast in (111e-f) readily follows if the dative clitic is structurally higher than the accusative clitic. (111f), where the accusative clitic skips the dative clitic, then involves a familiar relativized minimality violation, however this is to be formalized.

We have seen so far that the auxiliary-dative-accusative ordering of clitics within the clitic cluster is a result of the clitics in question being located in different structural positions, with the left-to-right order indicating successively lower structural positions. Franks (1998a) shows that other more subtle clitic orderings are also a result of a hierarchical arrangement of functional projections that house the clitics in question. Recall that accusative clitics must precede genitive clitics in the clitic cluster.⁵⁸ Franks observes (attributing the data to Sandra Stjepanović) that if in a construction containing both an accusative and a genitive clitic only one of the clitics moves into a higher clause, it must be the accusative clitic, which indicates that the accusative clitic is structurally higher than the genitive clitic. (Note that *me* and *ih* are morphologically ambiguous in

⁵⁷In my judgment, (111e) is also somewhat degraded. However, it is still better than (111f), which suffices for Stjepanović’s conclusion to go through.

It is worth pointing out that Franks and King (2000:247) observe that Slovenian patterns with SC in the relevant respect. (They discuss clitic climbing out of infinitives in Slovenian and observe a contrast parallel to SC (111e-f). See section 3.4.)

⁵⁸The judgments on the order of accusative and genitive clitics are often not very firm. As noted by Browne (1974), speakers often avoid using constructions with clause-mate accusative and genitive pronominal clitics.

that they can be either accusative or genitive. *Lišiti* ‘to deprive’ requires the “of”-argument to be in the genitive.)⁵⁹

- (112) a. *Ti si želio da me ih lišiš.*
 you are wanted that me them deprive
 ‘You wanted to deprive me of them.’
 ‘*You wanted to deprive them of me.’
- b. *?Ti si me želio da ih lišiš.*
 ‘You wanted to deprive me of them.’

⁵⁹On the order of *se*, presumably accusative, and the genitive clitic in (i), see Franks (1998a), who argues that *se* in such constructions heads Voice Phrase, which is the lowest phrase above VP. (*Bojati* ‘to fear’ lexically requires *se*. *Se* that is not lexically required by the verb behaves in the same way with respect to (i) and (ii).)

- (i) *Ja sam ga se bojao.*
 I am him.gen self feared.
 ‘I was afraid of him/it.’

Notice that *je* is often (in fact, preferably) dropped in the presence of *se* (this does not hold for other auxiliary forms), which, as pointed out by Cedric Boeckx (personal communication), suggests that *se* and *je* might be competing for the last position within the clitic cluster, in which case the analysis of *je* presented in section 3.2 would be extendable to *se*. (*Se* generally follows pronominal clitics, though there is some variation in this respect. For relevant discussion concerning *se*, see chapter 3 fn. 31, Progovac 1998d, and Stjepanović 1998a.)

- (ii) a. *On se bojao Petra.*
 he self afraid Petar.gen
 ‘He was afraid of Petar.’
- b. **Mi se bojali Petra.*
 we are afraid Petar.gen
- c. cf. *Mi smo se bojali Petra.*
 we are self afraid Petar

Interestingly, in Czech and Slovenian reflexive *se* must precede pronominal clitics (see Toman 1995, Franks 1998a, and Franks and King 2000). Thus, although in (iiia) the dative must precede the accusative pronominal clitic, in (iiib) it must follow the reflexive. (The Czech examples in (iii) are taken from Franks 1998a. In Slovenian, some speakers allow accusative *se* to either precede or follow dative clitics.)

- (iii) a. *Představila jsem mu tě včera.*
 introduced am him.dat you.acc yesterday
 ‘I introduced you to him yesterday.’
- b. *Představila jsem se mu včera.*
 introduced am self.acc him.dat yesterday
 ‘I introduced myself to him yesterday.’

One way of dealing with the data in (iii) is to assume, as Toman (1995) does for Czech, a separate RefIP. Reflexive clitics would then either move or be generated in RefIP, which would be higher than AgrIO and AgrDO in Slovenian and Czech. Alternatively, it is possible that LF anaphor movement (see Lebeaux 1983 and Chomsky 1986b, among others) actually takes place overtly with Slovenian and Czech clitic reflexives, placing them higher than pronominal clitics in the overt syntax.

‘*You wanted to deprive them of me.’

The same point can be made with respect to the intervening effect of parentheticals, VP ellipsis, and VP fronting:

- (113) a. *Ti si me, kao što sam već rekla, lišio ih juče.*
 you are me as am already said deprive them yesterday
 ‘??You, as I already said, deprived me of them.’
 ‘*You, as I already said, deprived them of me.’
- b. *Oni su me ih lišili, a i vi ste me ih—lišiti (takodje).*
 they are me them deprived, and also you are me them deprived too
 ‘??They deprived me of them, and you did too.’
 ‘*They deprived them of me, and you did too.’
- c. **[Lišili ih] su me oni.*
 deprived them are me they
 ‘*Deprive me of them, they did.’
 ‘**Deprive them of me, they did.’

Finally, notice that, in contrast to argument pronominal clitics, ethical dative clitics (see (114)) can occur above subject-oriented adverbs. (It is difficult to translate ethical dative into English so I ignore it in the translations. See below for discussion of its semantics.)

- (114) *Oni su ti pravilno odgovorili Mileni.*
 they are you.dat correctly answered Milena.dat
 ‘They did the right thing in answering Milena.’
 ‘They gave Milena a correct answer.’
- (90) b. *Oni su joj pravilno odgovorili.*
 they are her.dat correctly answered
 ‘*They did the right thing in answering her.’
 ‘They gave her a correct answer.’
- d. *Oni su ga mudro prodali.*
 they are it.acc wisely sold
 ‘*It was wise of them to sell it.’
 ‘They sold it in a wise manner.’

The above data indicate that ethical dative is structurally higher than argumental dative and accusative clitics. This is not surprising. While argumental pronominal clitics are closely related

to the verb, ethical dative clitics are not. Radanović-Kocić (1988) in fact suggests that the ethical dative is a sentential particle. It is then no surprise that it is structurally higher than argumental pronominal clitics. (As noted by Radanović-Kocić, the ethical dative has an endearing quality. Its pragmatic function is to express closeness and sympathy between the speaker and the addressee, or to incite the hearer's attention and involve him or her in the narration.)

Notice also that as expected given the sentential adverbs data presented above, when both an ethical and an argumental dative are present in a sentence, the ethical dative must precede the argumental dative.⁶⁰

(115) a. Juče *sam ti* *joj* pomogla.

yesterday am you.dat her.dat help

'Yesterday, I helped her.'

b. *Juče *sam joj ti* pomogla.

The data discussed in this section strongly argue against often assumed morphological template analyses of the order of clitics within the clitic cluster (see Halpern 1995 and Schütze 1994, among others).⁶¹ Such analyses view the clitic cluster as a linearly ordered set of optional slots into which morphemes bearing certain feature combinations are placed. Under the morphological template view, the ordering of clitics within the clitic cluster is essentially arbitrary; it does not follow from anything in a principled way. The syntactic account of the order of clitics is more principled. Under this account the order of clitics within the cluster matches the structural height of the clitics. The above facts strongly indicate that this is indeed the case. Given this, instead of adopting an arbitrary morphological template, which would mirror the syntax, we should go with the syntactic account of the clitic order within the cluster.

The morphological template analysis was originally proposed to handle idiosyncrasies of clitic ordering that appear to be problematic for the syntactic view. (Notice that the morphological template analysis does not explain the idiosyncrasies; it merely provides a formal way of stating them.) The major idiosyncrasy of SC clitic ordering concerns the third person singular auxiliary clitic *je* 'is', which, in contrast to other auxiliary clitics, follows pronominal clitics within the clitic cluster, as discussed above. In section 3.2 I will show that this behavior of *je* is not an accident and that it is consistent with the syntactic view of clitic ordering.

In light of the facts discussed in the last two sections, I conclude that SC clitics are located in different projections in the syntax. They do not cluster together in the same head position,

⁶⁰See Fried (1999) for the corresponding data from Czech. Notice that the first clitic in (115b) cannot be ethical dative because ethical dative is limited to the 1st and 2nd person pronouns.

⁶¹The same holds for analyses in which the clitic cluster is ordered through arbitrary optimality-theoretic constraint rankings (see Anderson 1996, who outlines such an analysis, and Legendre 1999, 2000, who fleshes it out with respect to Bulgarian and Macedonian clitic clusters, which are discussed in chapter 4.)

contrary to what is crucially assumed under all syntactic accounts of second position clitic placement in SC.⁶² We have also reached some preliminary conclusions concerning the location of clitics in the syntax. I return to this issue in chapter 3.

2.2.2.2.8 *Franks (1998a)*. At this point I will discuss one very interesting syntactic analysis that I have put aside so far, namely Franks (1998a). (A similar analysis is proposed independently in Caink 1998, 1999a. For relevant discussion, see also Franks 2000 and Franks and King 2000.) I put it aside since the analysis in many respects differs from other syntactic analyses. It also has a great deal in common with the analysis eventually to be argued for here.

Together with some recent work (see Bošković 1997a and references therein), Franks assumes that only phrase structure which is independently required is projected. The particular instantiation of this approach Franks assumes is the one argued for in Bošković (1997a). Under this approach, there is no uniform categorial status for all clauses, for example, not all matrix clauses are CPs (see, however, Chomsky 1995 for an opposing view). Franks further assumes with Kayne (1994) that there can be only one specifier/adjunct per phrase. There is then only one XP position in front of each head within its phrase. The central part of Franks's analysis of second position clitics in SC is his proposal that SC clitics must move (as heads) overtly in the structure as high as possible, i.e. to the highest available head position. This leaves space for only one phrasal element to precede SC clitics within their clause, as in other syntactic approaches. Franks assumes that sentences with a clitic stranded in sentence-initial position are filtered out in PF because they violate a prosodic requirement on SC clitics (they cannot encliticize). As discussed above, the assumption is adopted by several other authors arguing for a syntactic approach to second position cliticization. Where Franks differs from these authors is that he requires clitics to move overtly only to the highest head projected, which does not necessarily have to be C. Under his approach clitics could actually end up being pretty low in the structure (by low I mean much lower than CP, were it projected). They also do not necessarily have a fixed structural position, since clauses do not always have the same phrase structure projected so that the highest head position is not uniform. As a result, in contrast to other syntactic approaches, assumptions (2b-c) are not necessary under Franks approach. Assumption (2a) is, however, still crucially needed under his approach. Since we have seen in sections 2.2.2.2.6 and 2.2.2.2.7 that the assumption that clause-mate clitics must cluster under the same head node in the syntax is empirically untenable we have to conclude

⁶²It is worth noting here that syntactic accounts, which place all clitics in the same head position at SS, crucially involve rightward adjunction, i.e., word order within the cluster is obtained by assuming successive rightward adjunctions of clitics to each other (see, for example, Progovac 1996). This is needed to capture the fact that the relative height of clitics prior to clustering corresponds to the linear order of clitics within the clitic cluster. This analysis is inconsistent with Kayne's (1994) Linear Correspondence Axiom (LCA). The analysis argued for above removes the potential problem for the LCA. Clitics are located within different projections with the left-to-right order in which they surface reflecting the hierarchical arrangement of projections in which they are located. (See in this respect Kayne's 1994:21 discussion of Romance clitics. See also section 2.3.2 for an explanation why in most cases phonologically realized material is not allowed to intervene between clitics although clitics are located in different projections.)

that though very interesting and empirically superior to other syntactic accounts, Franks's (1998a) analysis also has to be rejected on empirical grounds. (VP coordination facts from section 2.2.2.2.4 also remain unaccounted for under Franks's analysis. For another serious problem for Franks's analysis, see section 3.3.1.)

It should be also pointed out that Franks's (1998a) analysis is problematic theoretically. In particular, there is no principled way in the current theory to ensure that SC clitics always move overtly to the highest head position projected. Franks assumes that the movement is driven by a strong feature of the clitics. Since the clitics do not have a fixed structural position, it must then be the case that the strong feature is checked through movement to different positions in different clauses. It is very difficult to see how this state of affairs can be formalized in a principled way.⁶³

I conclude, therefore, that Franks's analysis must be rejected. However, it is worth noting here that several proposals Franks makes in his analysis will be crucially relied on in chapter 3. The ultimate analysis to be developed here thus owes a great deal to Franks (1998a).

To summarize the discussion in section 2.2 so far, we have seen that none of the strong syntax accounts assumptions in (2a-c) is warranted: SC clitics do not have to cluster in the syntax, they do not have a fixed structural position, and they do not have to be located under C. In light of this I conclude that the strong syntax account must be rejected. In the remainder of this section I will give an additional argument against purely syntactic accounts which will also provide us with a clue where to look for a solution to the second position cliticization puzzle.

2.2.2.2.9 Delayed clitic placement. It is well-known that certain elements, such as appositives, fronted heavy constituents, and parentheticals, can delay clitic placement. This is shown by (116)-(119), where the clitics occur in the third and the fourth position of their clause. (For discussion of delayed clitic placement, see Bennett 1986, Bošković 1995, Browne 1974, 1975, Čavar and Wilder 1994, Franks 1998a, Franks and King 2000, Halpern 1995, Percus 1993, Progovac 1996, Radanović-Kocić 1988, 1996, Schütze 1994, Tomić 1996a, and Zec and Inkelas 1990).

(116) Sa Petrom Petrovićem sreća se samo Milena.

with Petar Petrović met self only Milena

'With Petar Petrović, only Milena met.'

(117) Znači da, kao što rekoh, oni će sutra doći.

means that as said they will tomorrow arrive

⁶³It is also difficult to see how the strong feature in question can enable clitics to move successive cyclically, which Franks assume they do. Franks attempts to relate clitic movement in SC to V-movement. In particular, he suggests that clitics move overtly to where the verb is going to move in LF. In effect then, "moving the clitics in the syntax to where the verb is going to be at LF has to be enough to satisfy these strong features (of clitics)" (Franks 1998a:30). Relating overt clitic movement to LF V-movement formally is obviously extremely tricky. (The reader is also referred to Franks 2000, who provides an account that relates overt clitic movement and covert V-movement within the single cycle syntax. Progovac 1998c also presents an analysis that relates clitic movement and V-movement.) However, it seems to me that nothing in Franks's analysis of second position cliticization in SC actually requires a connection with V-movement.

‘It means that, as I said, they will arrive tomorrow.’

(118) Ja, tvoja mama, obećala *sam ti* sladoled.

I your mother promised am you.dat ice cream

‘I, your mother, promised you an ice cream.’

(119) Prije nekoliko godina sa Petrom Petrovićem srela *se* samo Milena.

before several years with Petar Petrović met self only Milena

‘A few years ago, with Petar Petrović, only Milena met.’

The distribution of SC second position clitics, illustrated above, can be stated in very simple prosodic terms (see also Radanović-Kocić 1988):

(120) SC clitics occur in the second position of their intonational phrase.

Nespor and Vogel (1982, 1986), Selkirk (1986), and Hayes (1989), among others, have proposed a hierarchical theory of the prosodic structure, which is determined by, but does not completely correspond to, the syntactic structure of the sentence. The units of this prosodic structure from word level up are: prosodic (phonological) word, phonological phrase, intonational phrase (I-phrase), and utterance.⁶⁴ I assume that, with some possible exceptions that need not concern us here, unless interrupted by a special element that forms a separate intonation domain, each clause is mapped to a single I-phrase. More precisely, the left edge of a CP corresponds to an I-phrase boundary. Certain elements, such as appositives, parentheticals, and heavy fronted constituents, are special in that they 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 constructions such as (55), repeated here, then contain only one I-phrase.

(55) Zaspao *je* Ivan.

fallen-asleep is Ivan

‘Ivan fell asleep.’

In (116)-(119), on the other hand, there is more than one I-phrase, since the appositive in (118), the fronted heavy constituents in (116) and (119), and the parenthetical in (117) form separate I-phrases. This means that a new I-phrase starts after these elements. Note that the elements in

⁶⁴There is disagreement on whether the *clitic group* exists as a prosodic unit, an issue on which I will remain silent here. (For relevant discussion concerning SC, see Halpern 1995, Percus 1993, Schütze 1994, and Zec and Inkelas 1992.)

I will not be able to provide here a complete account of prosodic phrasing in SC. Like other authors who discuss the relevance of the prosodic structure for second position cliticization in SC (Halpern 1995, Percus 1993, Radanović-Kocić 1988, 1996, Schütze 1994, and Zec and Inkelas 1990), I will rely on some fairly widely accepted assumptions concerning prosodic phrasing in general.

question are obligatorily followed by a pause, an indication of an I-phrase boundary. (For more phonological evidence to this effect, see Radanović-Kocić 1988, 1996.) Given this, it is clear that the clitics are located in the second position of their I-phrase in (116)-(119). When we attempt to place a clitic in the third position of its I-phrase, we get an ungrammatical sentence, as indicated by (121), which contains only one I-phrase, namely the whole clause.⁶⁵

- (121) *Petru on će prodati knjige.
 Petar.dat he will sell books.acc
 ‘To Petar, he will sell books.’

We have seen, however, that clitics can be placed in the third, even the fourth position of their clause. The correct descriptive generalization for the distribution of SC second position clitics is then not that they are second within their clause, but within their I-phrase, which strongly indicates that the second position effect is phonological in nature.⁶⁶

Before showing how the role of phonology in second position cliticization can be implemented formally, let us consider the standard syntactic account of the above facts. Under

⁶⁵As noted by Browne (1975), even moved constituents that are not heavy can delay clitic placement as long as they bear heavy contrastive stress and are followed by a pause, which indicates that the relevant elements are forming separate I-phrases. I disregard this possibility here.

⁶⁶Certain facts concerning clitic placement after conjunctions confirm this conclusion. Browne (1975) notes that some conjunctions must be followed by a pause. These conjunctions cannot host clitics, in contrast to conjunctions that are not followed by a pause.

- (i) a. *Dakle #*su* pozvali mnogo prijatelja i znanaca na ručak.
 so are invited many friends and acquaintances on lunch
 ‘So they invited many friends and acquaintances to lunch.’
 b. cf. Dakle, pozvali *su* mnogo prijatelja i znanaca na ručak.
 c. Pojeli *smo* sav kruh, pa *sam* otišao da kupim još.
 eaten are all bread so am went that buy more
 ‘We ate all the bread, so I went to buy more.’

Interestingly, *pa* can be used as an interjection, in which case it must be followed by a pause. Browne (1975) notes that in that case *pa* cannot host a clitic.

- (ii) Zašto nisi kupio voće? (Why didn’t you buy fruit?)
 a. *Pa #*sam* kupio jabuke.
 but am bought apples
 ‘But, I bought apples.’
 b. Pa, #kupio *sam* jabuke.

The fact that, in contrast to *pa* in (ic), *dakle* in (i) and *pa* in (ii) must be followed by a pause indicates that they are followed by an I-phrase boundary. Given this, the data under consideration also indicate that SC clitics must be second within their I-phrase rather than their clause. (For a prosodic explanation why certain monosyllabic conjunctions, including *pa*, that normally do not bear noticeable accent can still host clitics, see Hock 1996.)

syntactic accounts it is standardly assumed that elements that delay clitic placement (for example, the appositive and the fronted heavy constituents in (116)-(119)) are CP-external (i.e., they are located higher than CP) and therefore do not count in determining second position.⁶⁷ Given that they are CP external, the syntactic descriptive statement that clitics are second within their clause could still capture the distribution of SC clitics. However, it appears that the delaying effect of parentheticals, in particular, the contrast between (117) and (122), cannot be captured under this analysis.

- (122) *Znači da oni će sutra doći.
 means that they will tomorrow arrive
 ‘It means that they will arrive tomorrow.’

On closer scrutiny, the CP-external-delayers analysis also fails to account for the delaying effect of fronted heavy constituents and appositives. This can be shown by considering obligatory clitic third constructions. It is well-known that very heavy constituents *obligatorily* delay clitic placement, as shown by (123).

- (123) a. Njegovom najboljem prijatelju prodali su knjigu.
 his best friend.dat sold are book.acc
 ‘To his best friend, they sold the book.’
 b. *Njegovom najboljem prijatelju su prodali knjigu.

Under the prosodic account this would have to be interpreted as indicating that *njegovom najboljem prijatelju* in (123) must be parsed as a separate I-phrase, in contrast to, for example, *tvome prijatelju* in (124), which does not have to be parsed as a separate I-phrase, as indicated by the fact that it does not obligatorily delay clitic placement.⁶⁸ (Notice that a pause must follow *tvome prijatelju* in (124a), but cannot follow it in (124b), as expected).

- (124) a. Tvome prijatelju prodali su knjigu.
 your friend.dat sold are book.acc
 ‘To your friend, they sold the book.’
 b. Tvome prijatelju su prodali knjigu.

⁶⁷For an alternative analysis, see Franks (1998a). Franks’s analysis, which will not be discussed here, makes extensive use of phonological information, in contrast to the standard syntactic analysis.

⁶⁸This seems plausible given that which constituents obligatorily delay clitic placement is determined on prosodic grounds, prosodic heaviness being the determining factor (for discussion of exactly how heavy a constituent must be to obligatorily delay clitic placement, see Radanović-Kocić 1988 and Schütze 1994).

Under the syntactic account, which places elements that delay clitic placement outside of CP, the fact that, in contrast to *tvome prijatelju, njegovom najboljem prijatelju* obligatorily delays clitic placement has to be interpreted as indicating that, in contrast to *tvome prijatelju*, which can, but does not have to, move to a CP-external position, *njegovom najboljem prijatelju* must move to a CP external position. This, however, cannot be correct, as indicated by the fact that *njegovom najboljem prijatelju* can follow wh-phrases, which strongly suggests that it does not have to be sentence external, if it ever is.⁶⁹

- (125) a. Šta *su* (oni) njegovom najboljem prijatelju prodali?
 what are they his best friend.dat sold
 ‘What did they sell to his best friend?’
 b. Ko *je* njegovom najboljem prijatelju prodao knjigu?
 who is his best friend.dat sold book.acc
 ‘Who sold a book to his best friend?’

⁶⁹Notice that playing with CP Recursion cannot help here since we are dealing with an environment in which CP Recursion is not licensed (see Iatridou and Kroch 1992). For an attempt to deal with this type of construction under the syntactic approach, see Progovac (2000), who brings in phonological information into her account through a stipulation.

Percus (1993) and Schütze (1994) observe that elements that only optionally delay clitic placement in root clauses very often obligatorily delay clitic placement in embedded clauses. Thus, (ia) contrasts with (124b).

- (i) a. ??Ona tvrdi da tvome prijatelju *su* prodali knjigu.
 she claims that your friend.dat are sold book.acc
 ‘She claims that to your friend, they sold the book.’
 b. Ona tvrdi da tvome prijatelju prodali *su* knjigu.

Schütze suggests that the reason for this is prosodic. If this is true it must be the case that, in contrast to *tvome prijatelju* in (124), which is only optionally followed by an I-phrase boundary, *tvome prijatelju* in (i) must be followed by an I-phrase boundary. Given (120), the clitic can then follow *tvome prijatelju* in (124) but not in (i). (When it follows *tvome prijatelju* in (i) the clitic is located in the first position of its I-phrase.) The account seems to be on the right track. Notice that even when no clitic is present, as in (ii), the NP in question must be followed by a pause when it is embedded, but not when it is located in the root clause, where it is only optionally followed by a pause. I assume that the pauses are reflexes of I-phrase boundaries.

- (ii) a. Tvome prijatelju Jovan prodaje knjige.
 your friend.dat Jovan sells books.acc
 ‘To your friend, Jovan sells books.’
 b. Ona tvrdi da tvome prijatelju Jovan prodaje knjige.
 she claims that your friend.dat Jovan sells books.acc

What is the source of this peculiar distinction between root and embedded clause with respect to intonational phrasing? Notice that under the most natural interpretation, *tvome prijatelju* in (i) receives contrastive interpretation, which is not necessarily the case with *tvome prijatelju* in (124). This contrastive interpretation is accompanied by a somewhat stronger stress on the NP in question and a pause following it (an I-phrase boundary), which are usual prosodic effects accompanying contrastiveness (see also fn. 65).

A similar point can be made with respect to appositives. Radanović-Kocić (1996) observes that adding an appositive to a subject NP also obligatorily delays clitic placement:

- (126) *Ja sam ti obećala sladoled.*
 I am you.dat promised ice cream
 ‘I promised you an ice cream.’
- (127) **Ja, tvoja mama, sam ti obećala sladoled.*
 I your mother am you.dat promised ice cream (cf. (118))

The contrast between (127) and (118) is readily accounted for under the prosodic account. Appositives clearly must be parsed as separate I-phrases, as indicated by the fact that they are obligatorily separated by pauses. The clitic is then located in the second position of its I-phrase in (118), but in the first position in (127).

Under purely syntactic accounts we have to assume that the subject NPs in (118) and (127) must be located in different structural positions, which seems rather implausible. In particular, it is necessary to assume that the subject in (127) *obligatorily* moves to a CP-external position and therefore does not count for determining second position. (128), however, provides strong evidence against this analysis, since it shows that the relevant element does not have to be CP-external.

- (128) *Šta sam ti ja, tvoja mama, obećala?*
 what am you.dat I your mother promised
 ‘What did I, your mother, promise to you?’

I conclude, therefore, that purely syntactic accounts fail to account for delayed clitic placement. Trying to rescue syntactic accounts by assuming that elements that delay clitic placement are CP-external, which would allow us to maintain the generalization that SC clitics are second within their clause, a syntactic unit, does not work. We are left with the generalization in (120), which strongly indicates that the second position effect is phonological in nature.

Multiple wh-fronting questions containing clitics, which are discussed in more detail in chapter 3, confirm this conclusion. Consider (129).

- (129) **Ko koga je poljubio?*
 who whom is kissed
 ‘Who kissed who?’

The ungrammaticality of (129) is not surprising. Given Rudin’s (1988) claim that fronted wh-phrases in SC do not form a constituent, (129) conforms to the phonological statement of the second position effect: the clitic is not located in the second position of its I-phrase (assuming a

straightforward mapping between syntactic and phonological constituents).⁷⁰ Interestingly, such constructions become better with heavier wh-phrases. We observe the familiar delaying effect when the wh-phrase hosting the clitic is preceded by a pause, an indication of an I-phrase boundary:⁷¹

- (130) ?Koji čovjek, koju je knjigu kupio?
 which man which is book bought
 ‘Which man bought which book?’

The prosodic statement of the second position effect, to be derived below, readily captures the contrast between (129) and (130). On the other hand, it is difficult to see how the contrast can be accounted for under a purely syntactic account since all proposed analyses of multiple wh-fronting constructions assign (129) and (130) the same syntactic structure.

2.2.2.2.10 *Back to ellipsis.* That the second position requirement is a phonological rather than a syntactic requirement is confirmed by VP ellipsis constructions such as (131a), which contrasts with its non-elided counterpart (131b). (The relevance of (131a) was pointed out to me by Marcel den Dikken (personal communication). Note that *ga* is the only second position clitic in (131).)

- (131) a. Marija *ga* nije poljubila, a Ana jeste ~~poljubila~~ *ga*.

⁷⁰(129) also conforms to the syntactic statement of the second position effect under Rudin’s analysis, which places the first wh-phrase in SpecCP and other wh-phrases below the CP projection. Under this analysis, the clitic in (129) is third within its clause. The situation is somewhat more complicated under Bošković’s (1997b, 1998c, 1999) analysis of multiple wh-fronting constructions in SC. For relevant discussion, see chapter 3.

⁷¹The relevance of this type of construction was pointed out to me by Steven Franks (personal communication). Other possibilities for clitic placement in (130) are given in (i):

- (i) a. Koji *je* čovjek koju knjigu kupio?
 b. Koji čovjek *je* koju knjigu kupio?

The possibility of the clitic occurring between the wh-word and the following noun in (130) and (ia) is not surprising given that SC allows left-branch extraction. What is somewhat surprising is the marginal status of (ii):

- (ii) (?)?Koji čovjek koju knjigu *je* kupio?

The contrast between (130) and (ii) is reminiscent of the contrast in (iii). (For some discussion, see chapter 3.)

- (iii) a. da u velikoj sobi taj *je* čovjek poljubio Mariju.
 that in big room that is man kissed Marija
 ‘that in the big room, that man kissed Marija.’
 b. (?)?da u velikoj sobi taj čovjek *je* poljubio Mariju.

Marija him not+is kissed, and Ana IS kissed him
 ‘Marija didn’t kiss him, but Ana did.’

b. *Marija *ga* nije poljubila, a Ana jeste poljubila *ga/ga* poljubila.

(131) shows that constructions that violate the second position requirement, such as (131b), can be rescued by deleting the offending clitic in PF under VP ellipsis, as in (131a). (I assume that a copy of moved *ga* is present in the antecedent VP.) This is expected if the second position requirement is a phonological requirement (in PF, the clitic is second in (131a), but not in (131b)), but not if it is a syntactic requirement. Under the PF deletion account of ellipsis the clitic is located in the same, non-second position in both (131a) and (131b) in the syntax since (131a-b) have the same structure in the syntax.

2.2.2.2.11 *Infinitives*. Čavar and Wilder (1994) observe that infinitival complements of verbs and nouns have different possibilities for clitic placement and argue that this raises a problem for phonological statements of the second position effect. (Note that infinitives are rarely used as nominal complements in SC, so the judgments, including the base-line data, are somewhat murky here.)

(132) a. *Želi ga* vidjeti.

wants him to-see

‘He/she wants to see him.’

b. Jovan *ga* želi vidjeti.

c. **Želi* vidjeti *ga*.

(133) a. *Želja knjigu joj* dati bila *je* velika.

desire book her.dat to-give been is great

‘The desire to give her a book was great.’

b. **Želja joj* knjigu dati bila *je* velika.

c. **Želja* knjigu dati bila *joj je* velika.

I assume that clitic climbing is a result of syntactic movement of clitics that takes place in restructuring (clause union) environments. This immediately accounts for (133c) since crosslinguistically, nominal complements are non-restructuring environments. Consider now how the remaining constructions in (132-133) fare with respect to (120). (132) is not surprising since, as noted by Radanović-Kocić (1996), the infinitive in (132) is incorporated in the same I-phrase with the rest of the clause. (There can be no pause preceding the infinitive.) The clitic is thus located in the second position of its I-phrase in (132a-b), but not in (132c). As for (133), in contrast to infinitival complements of verbs, infinitival complements of nouns form separate I-phrases, as a result of which (133a-b) conform to (120). (*Joj* is located in the second position of its I-phrase

in (133a), and in the first position in (133b).) In my judgment, a small pause needs to follow *želja* in (133), an indication of an I-phrase boundary. Since this may not be obvious (Ćavar and Wilder 1994 seem to disagree), I will give additional evidence that nominal infinitival complements form separate I-phrases.

Radanović-Kocić (1988, 1996) shows that I-phrase boundaries block degemination in SC, as shown by the contrast between (134a) and (134b), where the heavy phrase must form a separate I-phrase.

- (134) a. Moj jorgan *je* od perja. /mojorgan/
 my comforter is of down
 b. Za prošlogodišnji Prvi maj Janko *je* otišao u Paris. /majjanko/ */majjanko/
 For last year's first May Janko is gone to Paris
 'For last year's May Day, Janko went to Paris.'

Significantly, degemination cannot take place in (135), which can be accounted for if there is an I-phrase boundary before the infinitive, i.e., if the infinitive forms a separate I-phrase. (This is not surprising if clausal complements of nouns are actually adjuncts (see Grimshaw 1990 for some relevant discussion), since adjuncts often form separate I-phrases.)

- (135) Pokušaj juriti *ga* peronom *je* uzaludan. /pokušajjuriti/ */pokušajuriti/
 attempt to-chase him.acc platform.inst is futile
 'The attempt to chase him down the platform is futile.'

Returning now to infinitival complements of verbs, notice that although restructuring must take place in infinitival complements of verbs containing clitics, it is in principle optional in SC. It seems plausible to assume that as a result of restructuring, the infinitival object gets Case-licensed in the matrix SpecAgroP.⁷² Assuming that the adverb in (136) is adjoined to the matrix VP on the reading on which it modifies the matrix verb, we can then account for the grammaticality of the construction on this reading: after movement to the matrix SpecAgroP, the infinitival object c-commands the anaphor within the adjunct.⁷³

- (136) On *je* želio otpustiti Petra i Marka zbog izjava jednog protiv drugog
 he is wanted to-fire Petar and Marko because-of statements one against other.gen

⁷²I assume that the movement does not necessarily have to be overt. The embedded verb should also be moving to the matrix clause when restructuring takes place.

⁷³Some speakers, including myself, do not at all allow reciprocal binding into adjuncts. For these speakers, (136) is unacceptable regardless of the verb the adjunct modifies. (The judgment in (136) is due to Sandra Stjepanović, who allows reciprocal binding into the adjunct in question.)

‘He wanted to fire Petar and Marko because of statements against each other.’

Assuming that the position of the adjunct is fixed, the grammaticality of (137) on the reading on which the adjunct modifies the matrix verb should then be interpreted as indicating that restructuring is optional: the infinitival object does not have to be Case-licensed in the matrix SpecAgroP. If that had to be the case we would expect (137) to violate Condition C.⁷⁴

- (137) On *je* želio otpustiti Marka_i zbog Markovih_i izjava.
 he is wanted to-fire Marko because-of Marko’s statements
 ‘He wanted to fire Marko because of Marko’s statements.’

Given that clitic climbing is obligatory with restructuring (see Burzio 1986 and Rizzi 1982), the above data together with the data in (132) lead to the conclusion that although in principle restructuring in SC is optional with infinitival complements of verbs, it must take place in constructions containing clitics. (Clitic climbing is obligatory, therefore restructuring is obligatory in constructions with clitics.) The exceptional behavior of infinitives containing clitics with respect to restructuring, restructuring being obligatory with such infinitives, receives a straightforward explanation under the prosodic account. Given that infinitival complements of verbs are obligatorily incorporated into the same I-phrase with the matrix clause, if restructuring and clitic climbing, which are in principle optional in the syntax, fail to occur in constructions like (132), we end up with structures that do not conform to (120) (see (132c)).⁷⁵

⁷⁴In contrast to (137), (i) is unacceptable:

- (i) *On *je* želio otpustiti njega_i zbog Markovih_i izjava.
 he is wanted to-fire him because-of Marko’s statements
 ‘He wanted to fire him because of Marko’s statements.’

The unacceptability of (i) probably has nothing to do with the question of where the infinitival direct object is Case-licensed. SC often disallows coreference between a name and a pronoun that precedes it even when the pronoun does not c-command the name, as shown by (ii):

- (ii) *Njegova_i majka voli Jovana_i.
 his mother loves Jovan

⁷⁵*Željati* ‘want’ can also take a *da* ‘that’ clause complement. With *da*-complements, restructuring is optional in non-clitic as well as clitic constructions, as indicated by the fact that clitic climbing with *da*-complements is possible but not necessary. (For much relevant discussion, see Progovac 1993. See also Terzi 1996.)

- (i) a. On *je* želio da otpusti Petra i Marka zbog izjava jednog protiv drugog.
 he is wanted that fires Petar and Marko because-of statements one against other.gen
 ‘He wanted to fire Petar and Marko because of statements against each other.’
 b. On *je* želio da otpusti Marka_i zbog Markovih_i izjava.
 he is wanted that fires Marko because-of Marko’s statements

It appears that under the syntactic analysis, we could account for the data under consideration if SC clitics obligatorily move to a functional head overtly and if that functional head is not present in infinitival complements of verbs regardless of whether they undergo restructuring or not. One problem with this analysis is that we have to stipulate that the functional head in question is present in infinitival complements of nouns. Another, more serious problem is that, as pointed out by Steven Franks (personal communication), clitic climbing out of an infinitival complement of a verb does not occur if the infinitival complement is fronted.

- (138) *Sresti ga u Kanadi, Dragan je želio.*
 to-meet him in Canada Dragan is wanted
 ‘Dragan wanted to meet him in Canada.’

Apparently, the functional head to which clitics move can be present in infinitival complements of verbs.

Under the prosodic account, (137) can be readily accounted for. In contrast to the infinitive in (132), the infinitive in (137) is a plausible candidate for mapping into a separate I-phrase. Given the I-phrasing in (139), both clitics are second within their I-phrase.

- (139) #*Sresti ga u Kanadi#, Dragan je želio#.*

I conclude that the data concerning clitic placement in infinitives discussed in this section also favor the prosodic account of second position cliticization.

Having established that the second position effect is phonological in nature, in the next section I turn to phonological approaches to second position cliticization.

2.3. PHONOLOGICAL APPROACHES TO SECOND POSITION CLITICIZATION

‘He wanted to fire Marko because of Marko’s statements.’

- c. ?*On ga je želio da otpusti.*
 he him is wanted that fires
 ‘He wanted to fire him.’
- d. *On je želio da ga otpusti.*
 he is wanted that him fires
 ‘He wanted to fire him.’

In (ic), restructuring takes place, as a result of which the clitic moves to the higher clause. In (id), restructuring does not take place and the clitic remains in the embedded clause. The fact that both (ic) and (id) are grammatical can be readily accounted for under the prosodic account given that the *da*-clause is parsed as a separate I-phrase. The pronominal clitic is then located in the second position of its I-phrase in both (ic) and (id).

2.3.1 The strong phonology approach: Move/insert clitics in PF

Radanović-Kocić (1988, 1996) gives an account of the second position effect in which all clitic placement is accomplished in the phonology. The following rules are responsible for clitic placement in her analysis:

(140) Assign the feature [+clitic] to the accusative, dative, and genitive pronouns, and auxiliaries (except *budem*) and the copula in all positions except when they are carrying phrasal stress and when not preceded by an element that can serve as its host.

(Radanović-Kocić 1988:88)

(141) Move all [+clitic] elements within an IP [intonation phrase] into the position after the first P [phonological phrase] of the same IP.

(Radanović-Kocić 1988:134)

Under Radanović-Kocić's analysis, clitics and the corresponding full forms are derived from the same elements. (There are a few elements, for example *li*, which according to Radanović-Kocić do not have corresponding full forms.) Clitics are identified as such through the assignment of the feature [+clitic] via rule (140), and then moved to second position in the phonological component, after prosodic mapping has applied. The movement must be taking place in the phonology rather than in the syntax because it refers to constituents (intonation and phonological phrases) not present in the syntax. In the syntax itself, clitics and the corresponding full forms are located in the same position.

There is a number of problems with this analysis. Thus, to account for the fact that both the Det-cl-N (4b) and the Det-N-cl (4a) order are possible, Radanović-Kocić assumes that the determiner in a Det+N sequence can optionally form a phonological phrase on its own, which is far from obvious.

(4) a. Taj čovjek *je* volio Milenu.

that man is loved Milena

'That man loved Milena.'

b. Taj *je* čovjek volio Milenu.

On the other hand, the participle in (142a), which in Radanović-Kocić's system has to be analyzed as involving VP preposing with subsequent PF movement of the clitic auxiliary placing it following the participle (see the discussion below), *has to* form a separate phonological phrase; otherwise, the contrast between (142a) and (142b) would remain unaccounted for.

- (142) a. Poljubili *su* Mariju.
 kissed are Marija
 ‘They kissed Marija.’
 b. *Poljubili Mariju *su*.

Notice that under Radanović-Kocić’s analysis, (142a) cannot be analyzed as involving syntactic head movement of the participle, which is the standard analysis of the construction, in light of the ungrammaticality of (143), involving the strong form of the auxiliary. (As discussed in section 2.2.1.3 and illustrated by *Poljubili Mariju jesu*, VP preposing is possible in this environment.)

- (143) *Poljubili jesu Mariju.
 kissed ARE Marija
 ‘They did kiss Marija.’

Since *sam* and *jesam* are syntactically the same element under Radanović-Kocić’s analysis and since (142) does not affect non-clitic auxiliaries, under Radanović-Kocić’s analysis the ungrammaticality of (143) should be interpreted as indicating that a participle cannot undergo syntactic head movement in front of an auxiliary. The only way to derive (142a) under Radanović-Kocić’s analysis then seems to be to assume that the construction involves VP preposing in front of the auxiliary clitic, which is obligatorily followed by an application of (141) that places the auxiliary clitic following the participle, given the non-obvious assumption that the participle must form a phonological phrase on its own. (Notice that (142a) cannot be derived from an auxiliary-participle-NP sequence by applying (140)-(141) since in this sequence, the auxiliary is not preceded by an element that can serve as its host. Notice also that Radanović-Kocić intends each of the specified environments in (140) to block [+clitic] assignment.) Given that constructions such as (142a) must be derived through phrasal, VP movement, the ungrammaticality of (144a) becomes a serious problem. Notice that the declarative complement of *tvrditi* ‘claim’ allows phrasal long-distance movement, in fact VP movement, out of it, as illustrated by (144b).

- (144) a. *Poljubili *si* Mariju tvrdio da nisu.
 kissed are Marija claimed that not+are
 ‘Kiss Marija, you claim that they didn’t.’
 b. ?Poljubili Mariju *si* tvrdio da nisu.

Under Radanović-Kocić’s analysis, which would treat (144) on a par with (142) (both (144) and (142) would involve VP fronting followed by (141)), (144a) should be acceptable and (144b) unacceptable. I conclude therefore that the grammaticality of participle-auxiliary constructions like (142a) cannot be accounted for without undesirable consequences under Radanović-Kocić’s

analysis.

(16a-c) also raise a problem for Radanović-Kocić's analysis.

- (16) a. *Lava sam Tolstoja čitala.*
 Leo.acc am Tolstoi.acc read
 'Leo Tolstoi, I read.'
- b. **Lava sam Tolstoj čitala.*
 Leo.acc am Tolstoi.nom read
- c. **Lav sam Tolstoja čitala.*
 Leo.nom am Tolstoi.acc read
- d. *Lava Tolstoja sam čitala.*
- e. ?*Lava Tolstoj sam čitala.*
- f. *Lav Tolstoja sam čitala.*

It appears that the only way to account for these data under her analysis is to assume that *Lava* in (16a) does (though it does not have to, cf. (16d)), and *Lava* in (16b) and *Lav* in (16c) do not, form a phonological phrase, a distinction that seems rather implausible and which leaves the correlation between syntactic movability and the ability to host the clitic in the constructions in question (see (15)) completely unexplained. In fact, quite generally, Radanović-Kocić's analysis fails to capture the generalization that only elements that can be independently shown to be able to undergo syntactic movement can host SC clitics (in addition to elements that are base-generated in front of clitics), since rule (141) essentially washes away this kind of syntactic effect. However, the most serious problem with Radanović-Kocić's analysis is the power of extensive non-local word reordering that the phonology is invested with. Notice also that Progovac (1996) shows that locality constraints on at least some instances of clitic placement are the same as locality constraints on wh-movement (see the discussion below), which Radanović-Kocić would consider a syntactic operation. This means that under Radanović-Kocić's analysis, we are simply duplicating syntax by applying syntactic operations in the phonology and subjecting them to the same locality constraints, which is conceptually very unappealing, particularly in light of the fact that Radanović-Kocić does not provide any independent motivation outside of SC cliticization that non-local word reordering operations such as those she needs in her analysis of SC cliticization are indeed otherwise attested in the phonology. I return to this point in section 2.3.2 after presenting an alternative phonological analysis of second position cliticization in SC.

Let us now examine Progovac's (1996) evidence against Radanović-Kocić's analysis. Progovac observes that SC verbs fall into two groups: those that select syntactically/semantically opaque complements (I-verbs), and those that select transparent complements (S-verbs). Though SC does not have distinct subjunctive morphology, the distinction goes along the indicative/subjunctive complement distinction in other languages. In fact, SC S-complements have

strong tense restrictions, which is a characteristic of subjunctive complements crosslinguistically.

Progovac observes that clitic climbing is possible out of S-, but not out of I-complements:

- (145) a. Milan kaže da *ga* vidi.
 Milan says that him sees
 ‘Milan says that he sees him.’
 b. *Milan *ga* kaže da vidi.

- (146) a. Milan želi da *ga* vidi.
 Milan wants that him sees
 ‘Milan wants to see him.’
 b. ?Milan *ga* želi da vidi.

The possibility of clitic climbing in (146b) cannot be accounted for under Radanović-Kocić’s analysis, since the embedded clause in (146b) forms a separate I-phrase, just like the embedded clause in (145b). In fact, it is difficult to see how the difference between (145b) and (146b) can be accounted for in a principled way in purely phonological terms. The difference seems to be syntactic in nature. Thus, Progovac observes that the difference between I- and S-complements can be observed with uncontroversially syntactic operations, such as wh-movement across negation:

- (147) a. ?*Koga ne kažeš da voliš?
 whom not say that love
 ‘Whom don’t you say that you love?’
 b. Koga ne želiš da voliš?
 whom not want that love
 ‘Whom don’t you want to love?’

Progovac observes that negative polarity items also extend their domain in S-, but not in I-complements, like in many other languages:

- (148) a. *Ne kažem da vidim nikoga.
 not say that see no-one
 ‘I don’t say that I see anyone.’
 b. Ne želim da vidim nikoga.
 not want that see no-one
 ‘I don’t want to see anyone.’

All this indicates that the difference between I- and S-complements is syntactic/semantic (see Progovac 1993 for an analysis.) Since clitic placement is sensitive to it, it follows that clitic

placement is a syntactic rather than a phonological operation, contrary to what Radanović-Kocić argues.

Anderson (1993) presents an analysis that is in some respects similar to Radanović-Kocić's analysis. Instead of moving to second position in PF, under Anderson's analysis SC clitics are introduced into the structure in second position (their "anchor" is either the first word or the first constituent) as phrasal affixes in morphology, which would be part of PF in my terminology. Anderson's analysis has some of the same empirical drawbacks as Radanović-Kocić's analysis. Thus, clitic climbing facts discussed above appear to remain unaccounted for under Anderson's analysis. Anderson's analysis also fails to account for constructions in which traditional 1W placement is not allowed (cf. (9b), (11a), (12a), (13c), and (16b-c)), since under Anderson's analysis it should always be possible to insert SC clitics after the first word of their cliticization domain. More generally, the correlation between syntactic movability and the ability to host a clitic, discussed above, remains unaccounted for under Anderson's analysis. It is also difficult to see how VP ellipsis, VP fronting, and parenthetical-split-clitics data from section 2.2.2.2.6 can be accounted for in a principled way under Anderson's analysis.⁷⁶

To summarize, the conclusion that the data discussed so far lead us to is that we need a PF account of the second position effect in which clitic placement (i.e. clitic insertion and movement) itself takes place in the syntax rather than in the phonology. One such account is fleshed out in the next section.

2.3.2 The weak phonology account: Filtering out ungrammatical constructions at PF

Instead of investing the phonological component with the power to do operations that belong to another domain and are otherwise not obviously applicable in the phonology, let us try to capture the second position effect by appealing to independently motivated phonological mechanisms. It is clear that in every derivational model, the phonology (by which I mean PF) should be allowed to have a filtering effect on the syntax, i.e., it should be allowed to rule out some syntactically well-

⁷⁶The same holds for Bošković's (1995) data concerning double-participle constructions. To be fair to Anderson (1993), none of the data claimed here to be problematic for Anderson's analysis were discussed in that work since they were not known at that time. Note that Anderson is vague about the syntax of the relevant constructions, so that it is difficult to be certain about the predictions that his analysis would make.

Notice also that, as far as I can tell, Anderson's later optimality-theoretic analysis of SC cliticization presented in Anderson (1996) faces the same problems as Anderson's (1993) analysis. Thus, the correlation between syntactic movability and the ability to host a clitic as well as the VP ellipsis, VP fronting, and the parenthetical-split-clitics data presented above all appear to remain unaccounted for in Anderson's (1996) system.

It is worth noting here that Anderson (1993) argues that the second position clitic effect should be generalized to the Germanic V-2 effect, a position which is adopted in chapter 3 of this work. Some other aspects of Anderson's analysis are also incorporated into the analysis to be developed below, which should be obvious from the discussion in the next section.

formed constructions. Lasnik's (1981) Stranded Affix Filter is an example of this filtering effect of the phonology. It seems clear that we should not expect syntax to rule out all constructions containing stranded affixes. In fact, it is not clear how this could be done in a principled way. Such constructions, however, can be ruled out in a principled way in PF due to the presence of an illegitimate PF object, namely a phonologically weak element that does not have a host.

The same should hold for stranded clitics. PF should be able to filter out well-formed syntactic outputs containing stranded clitics. Phonologically weak elements clearly must be specified for the direction of their attachment to the host. SC clitics are suffixes.⁷⁷ I assume that they are specified as such in the lexicon. Any syntactic output where this lexical requirement of SC clitics is not satisfied will then be filtered out in PF. This accounts for the badness of sentences in which clitics are found in the initial position of their I-phrase, given the assumption that cliticization cannot take place across I-phrase boundaries, as argued for SC in Percus (1993) and Schütze (1994).⁷⁸ What about other instantiations of the second position requirement? In Bošković (1995) I argue that we do not need to adopt any new phonological operations to capture them, as Radanović-Kocić (1988) does, and suggest that the second position requirement on SC clitics can be captured in its entirety through a filtering effect of the phonology on the syntax. The analysis follows the line of work that originated with Klavans (1985) (see also Anderson 1992, 1993). I will therefore discuss Klavans (1985) before turning to Bošković (1995). (Klavans herself does not discuss SC.)

Klavans considers the second position requirement a result of lexical properties of clitics, some of which are syntactic and some of which are phonological in nature. To account for crosslinguistic variation with respect to cliticization, Klavans proposes three parameters for clitic placement, which are instantiated as lexical properties of clitics, i.e., clitics are lexically specified for their settings.

- (149) a. Parameter 1 (Dominance): Initial/Final
 b. Parameter 2 (Precedence): Before/After
 c. Parameter 3 (Phonological liaison): Proclitic/Enclitic

Parameter 1 determines whether a clitic attaches to the initial or final constituent of a specified phrase. Parameter 2 specifies whether the clitic occurs before or after the host chosen by Parameter 1. Parameter 3 gives the direction of phonological attachment. The reason why both Parameter 2, which is essentially syntactic, and Parameter 3, which is phonological, are needed is because,

⁷⁷I am not claiming here that clitics and affixes are the same thing (for relevant discussion, see Anderson 1992, 1993, Klavans 1985, Peperkamp 1997, and Zwicky and Pullum 1983, among many others). I use the term suffix to indicate *any* phonologically weak element that follows its host (i.e., I use it for both enclitics and traditional suffixes.)

⁷⁸This might not be true crosslinguistically, see Bresnan (1971).

according to Klavans, a clitic can have a different host in the syntax and the phonology.

Though Klavans does not state this explicitly, we also need a parameter that would determine the specified phrase whose initial or final constituent the clitic attaches to, i.e., we need to determine the domain of cliticization for Parameter 1. Klavans argues that the domain of cliticization is determined syntactically. (Some of the possibilities, according to Klavans, are sentence, NP, and V.) Since Klavans does not explicitly propose a parameter for the domain (see, however, Klavans 1982), which is clearly needed, and since SC does not exhibit any crucial difference between the syntactic and the phonological attachment of clitics,⁷⁹ I will adopt a slightly revised version of Klavans's parameterization proposed in Anderson (1993).

- (150) a. P1 (Domain): specifies the domain of cliticization.
 b. P2 (Dominance): specifies whether a clitic attaches to the initial or final constituent of the domain specified by P1.
 c. P3 (Precedence): specifies whether a clitic precedes or follows the host determined by P2.

It is obvious that the value of P2 for SC second position clitics is INITIAL and the value of P3 SUFFIX. What about P1? According to Klavans, the domain of cliticization is determined syntactically. We have seen that this cannot be correct for SC. The domain of cliticization for SC is determined prosodically, namely, it is an I-phrase. SC second position clitics then have the following values for the parameters in (150):

- (151) a. I-phrase
 b. Initial⁸⁰
 c. Suffix

Following Klavans, I assume that we are dealing here with lexical properties of clitics. Since the relevant properties of SC clitics are strictly phonological, it follows that the second position effect is a phonological effect. Klavans appears to treat her parameters as constraints on attachment or insertion of clitics (she is not very clear on this point though), i.e., she applies them derivationally. The parameters in (151), on the other hand, are more naturally applied representationally in the

⁷⁹In the current framework nothing special actually needs to be said about the syntactic attachment of clitics that would not hold for other lexical items. Like all other lexical items, clitics can undergo syntactic movement motivated by feature checking. If, for example, a clitic must be adjacent to a verb or a functional head in the syntax, this can be interpreted as indicating that the clitic has a feature to check against the verb or the functional head and moves to it to do that. Other non-clitic lexical items can have the same property.

⁸⁰I assume that either an initial prosodic word or an initial phonological phrase can be the relevant constituent for P2. Radanović-Kocić suggests that the host is always a phonological phrase, which is unclear (see Zec and Inkelas 1992). Anyway, a modification of the current analysis proposed below will explain in a principled way the possible disjunctivity in SC clitic placement.

current system. I therefore assume that (151a-c) constrain PF representations: sentences violating the relevant lexical properties of clitics are filtered out in PF. This way we can easily account for the fact that, as shown by the contrast in (131), sentences violating the second position requirement can be rescued by deleting the offending clitic in PF: no clitic violates (151a-c) in the *output* of PF in (131a), which is not the case with (131b).

- (131) a. Marija *ga* nije poljubila, a Ana jeste ~~poljubila~~ *ga*.
 Marija him neg+is kissed, and Ana IS kissed him
 ‘Marija didn’t kiss him, but Ana did.’
 b. *Marija *ga* nije poljubila, a Ana jeste poljubila *ga/ga* poljubila.

On the other hand, these facts remain unaccounted for if (151a-c) are applied derivationally as constraints on attachment or insertion of clitics.⁸¹ Notice also that, although under the current analysis the second position requirement is considered to be a phonological phenomenon, we do not need to appeal to PF movement of clitics and no look-ahead from the syntax to the phonology is needed to account for it. Syntax can do its job without worrying about what phonology will do. Notice also that clitics are present and undergo movement in the syntax, they are not lexically inserted and do not undergo movement in PF, which enables us to account for the clitic climbing facts from section 2.3.1.

The phonological, representational version of Klavans’s analysis for SC can be further simplified by eliminating one of the parameters in (151). In Bošković (1995) I show that it suffices to have the following as the relevant lexical properties of SC clitics.

- (152) a. #_
 b. Suffix

(152) states that SC clitics must be suffixes and right adjacent to an I-phrase boundary.⁸² (152b) corresponds to P3, and (152a) is intended to capture the effects of P1 and P2. It specifies the domain of cliticization and states that SC clitics must be located in the beginning rather than the end of that domain without using a constituent of the domain as an intermediary in specifying the relation between the clitics and the domain.

(152a) and (152b) appear to impose conflicting requirements: (152a) requires that SC clitics

⁸¹The same holds for the clitic climbing facts discussed in section 2.3.1, which provide evidence that clitics move in the syntax. Implementing (151a-c), which are phonological in nature, as constraints on attachment or insertion of clitics would require clitics to be either inserted or undergo movement in PF.

⁸²As noted below, Aissen (1992:53-68) shows that Tzotzil and Jakalteq have enclitics that must be left-adjacent to an I-phrase boundary. As a result, they are always followed by an I-phrase boundary. (Aissen calls the enclitics in question "intonational phrase enclitics".)

immediately follow an I-phrase boundary and (152b) requires that there be at least one phonologically overt element between the clitic and the I-phrase boundary that can serve as a host for the clitic, given the natural assumption that cliticization cannot take place across I-phrase boundaries. In Bošković (1995) I show that the conflict can be resolved by adopting a modified version of Marantz's (1988, 1989) Morphological Merger.⁸³ Consider the following definition of Morphological Merger:⁸⁴

(153) Morphological Merger

At any level of analysis, independent constituents X and Y standing in a relation at that level (or heading phrases standing in a relation) may merge into a single word X+Y, projecting the relation between (the constituent headed by) X and (the constituent headed by) Y onto the affixation relation X+Y.

The underlying assumption here is that Morphological Merger takes place in PF under PF adjacency. Slightly departing from Marantz, I assume that after X and Y merge, the derived element takes over the requirements of both X and Y. The most important departure from Marantz is that I assume that Morphological Merger cannot reorder elements; it simply puts two adjacent elements together forming a single word out of them. This restrictive view of Morphological Merger ensures that Morphological Merger has a very different effect from PI; it is less powerful since it cannot affect linear order. I will refer to this conception of Morphological Merger as PF merging.

In constructions such as (154), the clitic merges with the preceding element, thus satisfying its suffix requirement. Since the derived word, which takes over the requirements of "its constituents", is adjacent to an I-phrase boundary, indicated by #, (152a) is also satisfied.⁸⁵

⁸³In Optimality Theory (OT) (see Prince and Smolensky 1993 and subsequent work), the conflict would be resolved through constraint ranking, with the constraint corresponding to (152b) (Anderson's 1996 *Non-Initial* and Franks's 1999 *Prosodic Support*) ranked higher than the constraint corresponding to (152a) (Anderson's *Edge-Most* and Franks's *Left=Higher*). (See Anderson 1996 for an OT analysis of SC cliticization along these lines. For some empirical problems with Anderson's analysis, see fn. 76. For much relevant discussion, see also Franks 1998a, 1999, 2000, and Franks and King 2000, who give an account of SC cliticization in which syntax is generative, but OT considerations (of the kind noted above) regulate PF, following Pesetsky's 1997a, b work.) However, I show below that the mechanism of constraint ranking (i.e. violable constraints) is not needed to resolve the apparent conflict caused by (152a-b), thus eliminating the stipulated ranking of the OT accounts, a desirable result.

⁸⁴As discussed below, the view of Morphological Merger and assumptions relevant to it I take here differs from that of Marantz (1988, 1989). This is necessary because several theoretical assumptions I adopt differ from Marantz's theoretical framework.

⁸⁵It is often possible to assign more than one prosodic structure to a single syntactic structure, depending on how it is pronounced. I disregard this below and show only the relevant prosodic structures. (For discussion of what maps into an I-phrase, see section 2.2.2.2.9.)

Notice that if all prosodic representations respect the prosodic hierarchy I-phrase>phonological

(154) #Nju je Jovan poljubio#.

her is Jovan kissed

‘Her, Jovan kissed.’

More complex cases in which a branching element precedes a clitic can also be readily accounted for given certain proposals made in Marantz (1989). Marantz argues that constituent heads at PF are the elements located at constituent edges, an assumption that I adopt here.⁸⁶ Marantz also assumes that bearing a relation to a phrase is equivalent to bearing a relation to the head of the phrase, which I implement and generalize by assuming that properties of a head can be satisfied at the phrasal level and that properties of a phrase can be satisfied at the level of its head.⁸⁷ In light of this, consider (155), where a branching constituent precedes a clitic within its I-phrase.

(155) #_{[α} Moju prijateljicu] je poljubio#.

my friend.acc is kissed

‘My friend, he kissed.’

The clitic in (155) merges with *prijateljicu*, which is the PF head of the phonological phrase α , thus satisfying (152b). Given that properties of a head can be satisfied at the phrasal level, since α is right adjacent to an I-phrase boundary, (152a) is also satisfied.

Turning now to constructions that do not obey the second position requirement, structures in which clitics are located in the third position of their I-phrase, such as (121), are ruled out because (152a) is not satisfied. The suffix requirement can be satisfied in (121) by merging the clitic with *on*. However, since *on* is not adjacent to an I-phrase boundary (see the discussion above the example (121)), (152a) cannot be satisfied.

phrase>phonological word, and non-branching constituents project vacuously, a phonological phrase boundary intervenes between *nju* and the I-phrase boundary in (154). To account for the grammaticality of the construction we can then assume that prosodic boundaries do not disturb the relevant adjacency relation. However, the assumption is unnecessary in almost all cases under the approach to PF headedness adopted below.

⁸⁶In all relevant cases discussed below the head of a phrase is the rightmost constituent, which is in line with Nespor and Vogel’s (1982) system, in which in a right-branching structure (and SC is a right-branching language), the strongest element prosodically is always the rightmost one. Notice also that I assume that elements that are not prosodic words themselves (for example clitics) cannot head PF phrases.

⁸⁷To restrict the relevant head-phrase relation, I assume that it holds only between a head and the first phrase it heads. As a result, if X heads both a phonological phrase Z and an I-phrase Y, its properties can be satisfied at the level of Z, but not at the level of Y. This, which can be considered to be a relativized minimality-type effect, generally results in making the phonological phrase level the only relevant phrasal level for our current purposes (see the discussion below).

- (121) *#Petru on će prodati knjige#.
 Petar.dat he will sell books.acc
 ‘To Petar, he will sell books.’

Constructions with sentence-initial clitics such as (56) are ruled out because they violate (152b).

- (56) *#Je poljubio Ana#.
 is kissed Ana
 ‘He kissed Ana.’

It is easy to verify that examples that are not in accordance with (120), the descriptive statement of the second position effect, inevitably violate either (152a) or (152b). Constructions that are in accordance with it, on the other hand, satisfy (152a-b). Consider, for example, the delaying effect of elements that form separate I-phrases. As discussed in section 2.2.2.2.9, in (116), the fronted heavy constituent forms a separate I-phrase.

- (116) #Sa Petrom Petrovićem# sreća se samo Milena#.
 with Petar Petrović met self only Milena
 ‘With Petar Petrović, only Milena met.’

Petrovićem is then followed by an I-phrase boundary, evidence for which is provided by the fact that it is followed by a pause. This means that *sreća* is adjacent to an I-phrase boundary so that merging the clitic with *sreća* can satisfy (152a). The delaying effect of phonologically heavy elements on clitic placement is thus accounted for. Note that this is accomplished in a derivational model in which syntax feeds phonology, contra Zec and Inkelas (1990), who argue that we need a non-derivational, co-presence model in which syntax and phonology can feed each other to account for the delaying effect.⁸⁸ It is also worth pointing out that no look-ahead from the syntax to the phonology is required to account for the delaying effect under the current analysis.

(152a-b) also account for clitic clustering. In constructions such as (156), all the clitics merge with *oni*, satisfying (152a-b).

- (156) #Oni su mi ga predstavili#.
 they are me.dat him.acc introduced
 ‘They introduced him to me.’

In (157), the first clitic merges with *oni*, satisfying both (152a) and (152b). The second clitic

⁸⁸In this respect, it is worth noting that even in Optimality Theory, a non-derivational system, it has been argued that syntax "outranks" phonology (see, for example, Golston 1995, Legendre 2000, and Tranel 1998).

merges with the intervening element *Anu*. This satisfies (152b), but not (152a). (91a) can be accounted for in the same way.

(157) *#Oni *su* *Anu* *mi* *predstavili*#.

they are Ana.acc me.dat introduced

‘They introduced Ana to me.’

(91) a. *Oni *su* *pravilno joj* *odgovorili*.

they are correctly her.dat answered

Clitics (or, more precisely, clitics located in the same I-phrase - see (163), (89), and (164) below) are thus forced to cluster in PF by (152a-b). They are, however, not forced to cluster in the syntax, since (152a-b) are PF requirements. This enables us to account for Stjepanović’s ellipsis facts and adverb data from section 2.2.2.2.6, which indicate that SC clitics do not have to cluster in the syntax. The relevant descriptive generalization is the following: SC clitics must cluster (i.e. be adjacent) in the phonology, but do not have to cluster (i.e. form a constituent) in the syntax. This is readily captured by the current analysis, which forces clitic clustering in the phonology but is completely neutral with respect to the issue of whether clitics need to cluster in the syntax. In section 3.5 I will present an additional argument for the current account of the obligatoriness of clitic clustering in the SC constructions under consideration. We will see that Polish, whose clitics are not subject to the second position requirement (they are still subject to the requirement in (152b)), allows non-clitic material to intervene freely between clitics. Some relevant data from Franks (1998a) are given in (158):

(158) *Kiedy-śmy go wreszcie mu odebrali*...

when-aux.1pl it at-last him took-away

‘When we at last took it away from him...’

This will be interpreted as a confirmation of the current analysis, which relates the obligatoriness of clitic clustering in SC to the second position requirement.

One might think that split-clitics constructions such as (159a), in which the clitics are located within two different I-phrases, are incorrectly allowed in the current system.

(159) a. **Svome prijatelju će predstaviti ga sutra*.

his friend.dat will introduce him.acc tomorrow

‘To his friend, they will introduce him tomorrow.’

b. cf. *Svome prijatelju, predstaviti će ga sutra*.

It is easy to verify that (159a) satisfies (152a-b). This, however, does not have any undesirable

consequences, since (159a) is ruled out on the relevant derivation in the syntax. Recall that, as discussed in section 2.2.2.2.9, each clause forms a separate I-phrase and that certain elements, such as appositives, parentheticals, and heavy fronted constituents, form separate I-phrases, I-phrase boundaries coinciding with the boundaries of these syntactic constituents. (159a) then must have the structure shown in (160). The clitic must be located within the I-phrase introduced by the heavy element to satisfy (152a). (Recall that cliticization or, to be more precise, PF merging, cannot take place across I-phrase boundaries so that the only way (160) can satisfy (152a) is if the auxiliary is located inside the fronted NP.)

(160) #_[NP]Svome prijatelju *će*# predstaviti *ga* sutra#.

(160) involves movement of the auxiliary into the fronted NP. This movement is clearly syntactically illegitimate since it does not have a proper driving force. In the Minimalist system, the auxiliary in (160) has a syntactic reason to move to T⁰ and Agrs⁰, possibly C⁰. However, there is no syntactic requirement that could possibly motivate movement of the auxiliary into the fronted NP. The construction is then ruled out in the syntax by the Last Resort Condition, which prohibits superfluous operations.⁸⁹ The fact that (160) satisfies the phonological second position requirement is thus irrelevant. (160) is in fact ruled out for the same reason as the corresponding English construction.

(161) *_[PP]To his friends will] they introduce him tomorrow.

It seems safe to conclude that nothing goes wrong with (161) phonologically. The construction then must be ruled out in the syntax. We have seen that this can be done straightforwardly.

It is easy to verify that the following constructions involving clitics located in different I-phrases are also ruled out because the movement that brings the clitics into the additional I-phrase is syntactically illegitimate.

(162) a. *#_[PP]Sa njegovim najboljim drugom *će*# Milena *se* sresti#.
with his best friend will Milena self meet
'With his best friend, Milena will meet.'

b. *#Znači da #_[kao što rekoh]*će*# predstaviti *ga* Mileni#.
means that as said will introduce him.acc Milena.dat
'It means that, as I said, they will introduce him to Milena.'

⁸⁹There are other syntactic violations in (160). If the auxiliary adjoins to the NP we would have here adjunction of a head to a phrase, which is furthermore an argument. This is not allowed (see Chomsky 1986a). If, on the other hand, the auxiliary moves to a position contained by the NP, it will not c-command its trace, which again leads to a violation.

The fact that (162a-b) satisfy the second position requirement under the current analysis is then irrelevant. In fact, this is desirable, since ruling out the constructions by an additional requirement would be redundant.

Under the current analysis we would then expect constructions with clitics split in different I-phrases to be acceptable as long as nothing goes wrong with them in the syntax. The expectation is difficult to test since, in my opinion, the syntax of SC is still largely uncharted. As a result, for most of the potentially relevant constructions it is difficult to determine whether they are syntactically well-formed. However, it is still possible to construct acceptable constructions of the relevant type, which is an insurmountable problem for all syntactic accounts of the second position effect. Consider the following parenthetical-split-clitics construction. (Recall that, as discussed in section 2.2.2.2.9, parentheticals form separate I-phrases.)⁹⁰

(163)? #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.’

Syntactic clause-mates *su* and *se* are split in two different I-phrases. However, each clitic satisfies (152a-b) within its I-phrase. The acceptability of (163) is thus accounted for under the current analysis.⁹¹

Ćavar’s split-clitics constructions involving VP fronting, another problem for syntactic accounts, can also be readily accounted for. Each clitic in (89) can satisfy (152a-b) by merging with the preceding word.

(89) #_[VP]Dali *ga* Mariji] *su* Ivan i Stipe#.

⁹⁰The relevance of this type of example for the current analysis was pointed out to me by Chris Wilder (personal communication).

Notice that some speakers prefer not to have clitics followed by an I-phrase boundary, which is an interfering factor here (for the speakers in question). There may also be some variation with respect to parenthetical placement that is independent of clitic placement.

⁹¹Radanović-Kocić (1988:167) cites several examples from Maretić (1899) where phonologically realized material intervenes between clause-mate clitics. One of these examples (Maretić 1899:472) is given in (i). (I have added the last word so that the clitic is not necessarily followed by an I-phrase boundary.)

(i) da *su* u ono doba molili *se* (bogu).
 that are at that time pray self God.dat
 ‘that at that time they prayed (to God).’

I find (i) acceptable as long as the adjunct is given strong emphatic stress and followed by a pause, so that the clitic host (*molili*) is adjacent to an I-phrase boundary. Since the clause-mate clitics *su* and *se* are split in two I-phrases, the example can be easily accommodated under the current analysis. Like (163), the example raises an insurmountable problem for syntactic accounts of the second position effect.

given it.acc Marija.dat are Ivan and Stipe
 ‘Give it to Marija, Ivan and Stipe did.’

It is worth noting here that for some speakers, including myself, to the extent that constructions involving VP fronting of the complement of an auxiliary clitic are acceptable, the auxiliary clitic cannot immediately follow the fronted VP. Thus, the speakers in questions find (164) better than (89):⁹²

(164) Dali *ga* Mariji Ivan i Stipe *su*.

This can be readily accounted for if for the speakers in question the fronted VP must be analyzed as a separate I-phrase, as illustrated in (165). (In fact, for me, a pause must follow the fronted VP.) Given that I-phrase boundaries block PF merging, there is then no way for the second clitic in (165b) to satisfy (152a-b). For the speakers who accept constructions like (89), it must be the case that the fronted VP at least does not have to be parsed as a separate I-phrase.

(165) a. #Dali *ga* Mariji# Ivan i Stipe *su*#.
 b. #Dali *ga* Mariji# *su* Ivan i Stipe#.

Wilder and Čavar (1997) observe that the fact that, as discussed in section 2.2.2.2.4, constructions such as (79) involve VP coordination, which is a problem for syntactic accounts, can be readily handled under the current analysis, since a VP conjunct as a syntactic constituent could plausibly map to an I-phrase of its own, in contrast to the ordinary VP in (166). Gerund constructions such as (85a) are also readily accounted for, given that the gerund is parsed as a separate I-phrase, as argued in Radanović-Kocić (1996).

(79) [_{CP} Ivan *je* [_{VP} kupio auto] i [_{VP} razbio *ga*]
 Ivan is bought car and ruined it
 ‘Ivan bought a car and ruined it.’

(166) *Ivan *je* [_{VP} razbio *ga*]

(85) a. Dajući *joj* poklon, Jovan *se* izvinio.
 giving her present Jovan self apologized
 ‘Giving her a present, Jovan apologized.’

It is worth emphasizing here that although the current account of the second position effect

⁹²In my dialect, fronting of a complement of an auxiliary quite generally leads to degradation for reasons discussed in section 2.2.1.3. What is important here is that for me, and several other speakers I have consulted, (164) is better than (89).

is phonological, it straightforwardly accounts for 1W fortresses (environments in which traditional 1W clitic placement is not allowed) or, to be more precise, the correlation between syntactic movability and the ability to host a clitic, discussed in section 2.2.1.1 and shown to make the PI analysis untenable. This is so because under the current phonological account of the second position effect, clitics are inserted and undergo movement only in the syntax, so that the overgeneration problem that arises under the PI analysis, discussed above, does not arise. Under the current analysis, the ungrammaticality of (9b), (12a), (13b-c) (in the relevant dialects), and (16b-c) is accounted for in the same way as under the strong syntax account. The element hosting the clitics in (9b), (12a), (13b-c), and (16b-c) cannot be syntactically moved in front of the clitics, as indicated by (9a), (12c), (13a), and (15b-c).

- (9) a. *Prema Milan i Jovan idu Mileni.
 toward Milan.nom and Jova.nom walk Milena.dat
 ‘Milan and Jovan are walking toward Milena.’
- b. *Prema *su* Mileni Milan i Jovan išli.
 toward are Milena.dat Milan.nom and Jovan.nom walked
 ‘Toward Milena Milan and Jovan walked.’
- (12) a. *Tvoja *su* majka i Petar otišli.
 your are mother and Petar left
 ‘Your mother and Petar left.’
- c. *Tvoja/čija_i tvrdiš da *su* [t_i majka i Petar] otišli.
 your/ whose claim that are mother and Petar left
 ‘You claim that your mother and Petar left.’
 ‘Whose mother do you claim that she and Petar left?’
- (13) a. *Roditelji dolaze uspešnih studenata.
 parents arrive successful students.gen
 ‘Parents of successful students are arriving.’
- b. *Roditelji *su* došli uspešnih studenata.
 parents are arrived successful students.gen
 ‘Parents of successful students arrived.’
- c. *Roditelji *su se* uspešnih studenata razišli.
 parents are self successful students.gen dispersed
 ‘Parents of successful students dispersed.’
- (15) b. *Lava čitam Tolstoj.
 Leo.acc read Tolstoi.nom
- c. *Lav čitam Tolstoja.
 Leo.nom read Tolstoi.acc
 ‘Leo Tolstoi, I read.’

(16) b. *Lava *sam* Tolstoj čitala.

Leo.acc am Tolstoi.nom read

c. *Lav *sam* Tolstoja čitala.

Leo.nom am Tolstoi.acc read

Since no movement is assumed to take place in PF there is then no way to obtain the word orders in (9b), (12a), (13b-c), and (16b-c). 1W fortresses are thus accounted for in the same way as in the strong syntax approach.

However, it is easy to verify that the current analysis readily accounts for the following properties of SC second position cliticization, demonstrated in section 2.2.2.2 and shown to make the strong syntax approach, as well as the weak syntax approach, untenable: (i) SC clitics do not have a fixed structural position, (ii) they can be located very low in the tree, and (iii) they do not have to cluster together in the syntax. This is accomplished by removing the second position requirement from the domain of syntax.⁹³ All the problems for earlier accounts of the second position effect are thus resolved under the current analysis.

Having demonstrated how the analysis argued for here, in which all movement of clitics takes place in the syntax but PF is responsible for the second position effect, works, I will briefly return to Radanović-Kocić's PF movement analysis and show that it is conceptually inferior to the current analysis.

Notice first that the reason behind the postulation of the operation Move is strictly empirical. There is no conceptual reason why language would have to have movement. In fact, a system with only Merge (lexical insertion) would be simpler than a system with Merge and Move. The postulation of Move is therefore a departure from conceptual necessity. This departure, however, has strong empirical motivation. As Chomsky (1995:403) notes, "the most casual inspection of output conditions reveals that items commonly appear overtly "displaced" from the position in which they are interpreted at the LF interface. This is an irreducible fact of human language, expressed somehow in every theory of language, however the displacement may be concealed in the notation." Any departure from conceptual necessity needs to have strong empirical motivation. In the case of Move, the empirical motivation is obvious. The question is now in which component of the grammar Move should be located. It is clear that movement is sensitive to typical syntactic information (see, for example, the discussion of locality constraints on movement in Chomsky 1986a). There is, therefore, empirical motivation for placing the operation Move in the syntax (by which I mean both the covert and overt syntax). We would also expect to find empirical motivation for applying movement in PF, if this step is to be undertaken. Showing that movement can be sensitive to typical phonological information is a way to proceed here. This is exactly what

⁹³The analysis does not make any predictions with respect to the relevant properties of clitics in the syntax, in contrast to the strong syntax account, which, as shown above, makes incorrect predictions. For precise location of SC clitics in the syntax, see chapter 3.

the proponents of PI have attempted to do: they have tried to show that movement can be sensitive to linear adjacency and the prosodic status of the target. The example of movement in PF they are arguing for, namely PI, is very local, more local than syntactic movement, the explanation for which is provided by placing the relevant movement in PF: PI involves the kind of locality that can be stated in phonological but not in syntactic terms. (Move after the first prosodic word.) This seems to me to be the right way to go about arguing for PF movement. However, as discussed in section 2.2.1, the PI analysis turns out to be empirically inadequate for SC.

In the case of Radanović-Kocić's analysis, I see no empirical motivation for assuming that the movements she assumes are taking place in PF rather than in the syntax. (In fact, as Progovac 1996 shows, at least some instances of clitic movement clearly cannot be phonological, since they are subject to syntactic/semantic constraints.) Recall that, being a departure from conceptual necessity, Move must be empirically motivated. There is clear empirical evidence that Move applies in the syntax. Radanović-Kocić fails to provide similar evidence that Move applies in PF. True, she does show that phonological information must be taken into account in explaining the distribution of SC clitics. However, she does not show that the relevant information must be stated in terms of *constraints on movement*, which would give us an argument for movement in PF. In fact, we have seen above that if the relevant information is applied representationally, i.e. stated in terms of constraints on PF representations, we can account for the full range of second position effects in SC.

Given all of this, the conceptual case for the superiority of the syntactic movement of clitics analysis over Radanović-Kocić's analysis is very strong: recall that, as Progovac shows, at least *in some cases* clitic movement *must* be taking place in the syntax, the component for which we also have independent evidence that Move can apply in it. We have also seen that all the relevant facts *can* be accounted for if clitic movement *always* takes place in the syntax. As for Radanović-Kocić's analysis, we have not seen *any* cases that cannot be accounted for any other way but by applying her rule (141), an instance of movement in the phonology, a component for which we have no clear independent evidence that movement can ever apply in it. The syntactic movement of clitics analysis, like the one argued for here, is then conceptually clearly superior to Radanović-Kocić's phonological movement of clitics analysis, which, as discussed above, is also problematic empirically.

2.4. CONCLUDING REMARKS

In conclusion, the analysis hinted at, but not fully developed, in Bošković (1995) follows in the spirit of Klavans (1985). It simplifies the latter analysis, since it reduces two of Klavans's lexical parameters to a single lexical property. This is achieved by avoiding an intermediary in specifying the relevance of the domain of cliticization, a move that is conceptually appealing (see the

discussion below) and that has been made possible by adopting a modified version of Marantz's Morphological Merger which does not involve PF word re-ordering and is thus very different from PI. The current analysis of the second position effect differs from Klavans's in being representational and also more phonological. As in Klavans (1985), the second position effect is considered to be a result of lexical properties of clitics. However, since the relevant properties are phonological, under the current analysis the second position effect is completely determined by the phonology through a filtering effect of phonology on an overgenerating syntax. Phonology was assumed to have a filtering effect on syntax even in some syntactic accounts of the second position requirement. However, the filtering effect was restricted to constructions with sentence-initial clitics. The analysis argued for here extends the filtering effect of phonology to constructions where clitics are found in any other but the second position of their I-phrase. The filtering effect also forces clitic clustering in most cases. Where it does not, we have seen that the clustering is not necessary.

Although the current analysis places the second position effect in the phonology, there is no need to appeal to the assumption that clitics can undergo movement in the phonology, in either its weak (PI) or strong (Radanović-Kocić's) version. Phonological movement accounts of SC second position cliticization were shown to be both empirically and conceptually untenable. I conclude, therefore, that the data concerning second position cliticization in SC do not provide support for the possibility of movement in the phonology, as was previously argued. We have seen that the phonology can affect word order, but not through actual movement. Rather, the phonology affects word order by filtering out certain well-formed syntactic representations, ruling out in the process some syntactically well-formed word orders. We have seen that the filtering effect of the phonology can be so extensive as to mimic actual movement in its empirical effects. As a result, some researchers (for example, Radanović-Kocić) mistook it for actual PF movement.⁹⁴ In the following chapters we will see several other ways in which the phonology affects word order without actual applications of the operation Move in the phonology.

Returning to SC second position cliticization, we have seen that the descriptive generalization concerning the second position effect in SC is that SC clitics must be located in the second position of the I-phrase in which the syntax places them, which indicates that the second position effect is phonological in nature (I-phrases are phonological units) but that clitics undergo movement in the syntax. These are the defining characteristics of the current analysis. The descriptive generalization concerning the second position effect in SC is thus straightforwardly captured under the analysis argued for here, but not under alternative accounts, as demonstrated above.

We have also seen that all the relevant facts concerning the second position effect in SC can be accounted for in a derivational model in which syntax feeds phonology, contra Zec and Inkelas

⁹⁴The heaviness restriction on heavy NP shift could probably also be handled through a filtering effect of phonology.

(1990), who argue for a co-presence, bi-directional model in which the phonology (more precisely, prosody) can feed information to the syntax on the basis of the delaying effect of phonologically heavy elements on clitic placement in SC. Nothing in the data discussed above, including the delaying effect of phonologically heavy elements, requires adopting a co-presence, bi-directional model. (In fact, I am not aware of any data concerning second position cliticization in SC that would require it.) In addition, we have seen that there is no need for look-ahead from the syntax to the phonology to account for second position cliticization in SC, as a number of authors have previously assumed. The syntax can do its job without caring about the needs of the phonology.⁹⁵

It remains to be seen whether the current analysis, which is in a way a combination of Radanović-Kocić (1988) and Klavans (1985), the emphasis on the role of phonology coming from Radanović-Kocić, and its instantiation essentially coming from Klavans, can be extended to other second position cliticization languages (for some discussion, see chapter 3). What I hope to have demonstrated here is that more attention has to be paid to prosodic structure in accounting for the second position phenomenon. This, of course, can prove to be difficult in dealing with second position languages that are no longer spoken.

Like Klavans's analysis, the current analysis makes several predictions concerning what kind of variation we would expect to find with respect to cliticization crosslinguistically. The predictions still remain to be tested, the relevant prosodic information not being available in most cases. However, it is worth noting here that Aissen (1992:53-68) has carried out an investigation of certain clitics in Tzotzil and Jakaltek (Tzotzil *un* and Jakaltek *an*) and argues that the distribution of these clitics cannot be accounted for without reference to the prosodic structure of the sentence. In particular, the clitics in question must encliticize to the final element of their I-phrase (they are always followed by an I-phrase boundary), which in the current terms means that they have the following specification:⁹⁶

- (167) a. $_ \#$
 b. Suffix

Pending a detailed crosslinguistic investigation of clitic types (for some discussion, see chapter 3), I merely note here that reference to a penultimate or second element as the anchor within the domain of cliticization, which would give us so far unattested (see Halpern 1995 and references therein) types of cliticization ($\#X$ clitic+Y and Y+clitic X#, with # being the boundary of the domain of cliticization) and which in Klavans's system is blocked simply by *saying* that such a

⁹⁵See Zwicky and Pullum (1986). The last two conclusions are also reached by Schütze (1994), though his analysis is not completely trouble-free with respect to either of the conclusions. Golston (1995) also argues against Zec and Inkelas's claim that the phonology can feed information to the syntax.

⁹⁶See also Hock (1996) for some discussion of crosslinguistic parameterization of prosodic domains of cliticization, which includes both special and simple clitics in the sense of Zwicky (1979).

reference is not possible, is ruled out in a more principled way under the current analysis. To get these types of cliticization we need to be able to specify an intermediary in the relation between the clitic and the domain of cliticization, which, in contrast to Klavans's analysis, the current analysis simply does not do.

3

MORE ON SECOND POSITION CLITICS: PRONUNCIATION OF NON-TRIVIAL CHAINS

In this chapter I continue to investigate second position cliticization in SC, tying some loose ends from the previous chapter. The analysis presented in chapter 2 emphasized phonological properties of SC clitics. In fact, the analysis of the second position effect presented in that chapter does not depend on the exact location of SC clitics in the syntax. A number of different options for syntactic placement of SC clitics are compatible with the analysis. Some effort has been made to determine the syntactic location of SC clitics, auxiliary clitics in section 2.2.2.2.1, where we have seen that auxiliary clitics can, but do not have to, move to Agrs overtly, and pronominal clitics in sections 2.2.2.2.6 and 2.2.2.2.7, where we have seen that pronominal clitics can be located in their agreement projections overtly. In this chapter I will attempt to determine more precisely options for syntactic placement of SC clitics, with emphasis on auxiliary clitics. After elaborating on the analysis of SC clitics presented in chapter 2, I will consider how the analysis applies to clitic systems in several other Slavic languages. (I will ignore here Slavic languages with verbal clitics like Bulgarian and Macedonian. Clitics in these languages are discussed in chapter 4.) Another issue that will be extensively discussed in this chapter is the "schizophrenic" behavior of the 3.p.sg. auxiliary clitic *je* 'is'. Recall that, as discussed in section 2.2.2.2.7, *je* displays different behavior with respect to pronominal clitics in the syntax and the phonology. In the syntax, *je* precedes pronominal clitics, and in the phonology, it follows them. The dual behavior of *je* raises a serious problem for syntactic accounts of the order of clitics within the clitic cluster and potential evidence for the morphological template approach to this issue. It also represents a potential problem for my claim that SC clitics do not undergo PF movement. In fact, Stjepanović (1998a, b), who argues for the analysis developed in chapter 2 of this work, suggested that we might need to appeal to some

kind of low level PF re-ordering to account for the dual behavior of *je*. In this chapter I will show that the curious behavior of *je* can be explained in a principled way without assuming any PF word re-ordering mechanisms. Crucial to the analysis of *je* presented in this chapter will be Chomsky's (1993) copy theory of movement, in particular, certain issues that the theory raises for the pronunciation of non-trivial chains. The copy theory of movement will also be appealed to in pinpointing the exact location of SC clitics in the syntax. Therefore, before plunging again into issues concerning second position cliticization in SC, I will discuss the copy theory of movement, in particular, the possibilities that this theory of movement opens up with respect to PF realization of non-trivial chains. During the discussion, we will see another way for PF to affect word order without actual applications of the operation Move, in addition to the filtering effect of the phonology discussed in the previous chapter.

The next section is the theoretical backbone of the discussion of SC second position cliticization in this chapter, as well as Bulgarian and Macedonian cliticization in chapter 4. After discussing second position cliticization in SC, I turn to cliticization in Slovenian and Polish, and the V-2 effect in the Germanic languages, extending to these (with minor modifications) the current analysis of second position cliticization in SC.

3.1. PRONUNCIATION OF NON-TRIVIAL CHAINS AND THE COPY THEORY OF MOVEMENT

Under the original trace theory of movement, determining the pronunciation of non-trivial chains was straightforward. Chains were always pronounced in the head position since this was the only position in which phonological information was assumed to be located. However, under Chomsky's (1993) copy theory of movement, determining the pronunciation of non-trivial chains becomes a rather intricate issue.

Chomsky (1993) proposes that movement leaves behind a copy of the moved element rather than a trace in order to conform to the Inclusiveness Condition, which restricts syntactic operations to re-arrangements of elements introduced into the structure from the lexicon. The condition prohibits syntax from creating new elements, i.e. from introducing into the derivation elements that were not inserted from the lexicon. Traces are prime examples of "creativity" in the syntax and therefore in conflict with the Inclusiveness Condition. The copy theory of movement, on the other hand, conforms to the Inclusiveness Condition since under this approach to movement, syntactic applications of the operation Move do not create an object that could not have come from the lexicon.

In the case of successive cyclic movement, a number of identical elements can be created as a result of the application of the operation Move. It is generally assumed that on the LF side, we have at least some choice in deciding where deletion should take place in a non-trivial chain. Thus,

Chomsky (1993) argues that on the reading on which *himself* in (1) refers to *John*, the tail of the chain created by wh-movement of *which picture of himself* is deleted so that *himself* remains in SpecCP, where it is c-commanded by *John*, but not by *Peter*. On the other hand, on the reading on which *himself* refers to *Peter*, *himself* is deleted in the head of the chain and remains in the structure in the tail of the chain, where it is c-commanded by, and sufficiently local to, *Peter*.¹

- (1) John wonders [_{CP} [_{NP} which picture of himself] [_{IP} Peter bought [_{NP} which picture of himself]]]

In LF we thus have a choice in deciding where deletion should take place in a non-trivial chain. It is standardly assumed that such a choice is not available in PF, the head of a non-trivial chain always being the sole survivor. (By the head of a chain I mean here the highest copy in a series of copies created by movement of one element. When the element undergoes both A- and A'-movement, like *who* in *who t seems t to know French*, the A and A'-chain are treated as one chain for current purposes.) The following paradigm provides empirical justification for the standard assumption:

- (2) a. The student was arrested ~~the student~~.
 b. *~~The student~~ was arrested the student.
 c. *The ~~student~~ was arrested ~~the student~~.
 d. *~~The student~~ was arrested the ~~student~~.
 e. *The student was arrested the student.
 f. *~~The student~~ was arrested ~~the student~~.

However, several authors have recently argued that in PF, we also have a choice concerning which member of a chain survives deletion (see Bobaljik 1995, Groat and O'Neil 1996, Hiramatsu 1997, 2000a, b, Pesetsky 1997a, b, Richards 1997, Roberts 1997, Franks 1998a, Runner 1998, and Nunes 1998, 1999). Of particular interest to us is Franks's (1998a) proposal concerning deletion of copies

¹Chomsky's exact analysis is slightly more complicated. Chomsky argues that there is a preference for minimizing operator restriction in LF, which normally leads to deletion in the head of A'-chains. The preference for the deletion in the operator position is motivated by the impossibility of coreference between *he* and *Tom* in *John wondered which picture of Tom he liked*. Chomsky suggests that in (1), the deletion in the head of the chain is blocked on the reading on which *himself* refers to *John* because on this reading *himself* undergoes LF anaphor movement into the matrix clause from the head of the wh-movement chain. The deletion of the restriction in the head of the chain is then blocked because it would break the chain created by the LF anaphor movement. When *himself* refers to *Peter*, the lower copy of *himself* undergoes LF anaphor movement within the lower clause. Notice that for Chomsky (see Chomsky 1995:203-204), LF deletion needs to be able to leave a variable (without internal structure) behind, at least for θ -theoretic reasons, which might become irrelevant under Bošković and Takahashi's (1998) feature approach to θ -roles (see also Boeckx in press, Hornstein 1998, 1999, Kim 1997, Lasnik 1995b, Manzini and Roussou 2000, Saito and Hoshi 2000).

in PF. Franks proposes that, just as in LF there is a preference for deletion in the head position of non-trivial chains (at least with operator-variable chains), in PF deletion in the tail of non-trivial chains (more precisely, deletion of lower copies of non-trivial chains) is just a preference. It is not the only option. More precisely, Franks argues that a chain is pronounced in the head position, with lower members deleted in PF, unless the pronunciation in the head position would lead to a PF violation. If the violation can be avoided by pronouncing a lower member of the chain, the lower member is pronounced and the head of the chain is deleted. (See also Hiramatsu 1997, 2000a, b and Pesetsky 1997a, b.)²

3.1.1 Multiple wh-fronting

3.1.1.1 The *what what* construction. A strong piece of evidence for Franks's proposal is provided by certain facts concerning multiple wh-fronting in SC discussed in Bošković (1997b, 1998b). (Franks's evidence concerns second position cliticization in SC. I discuss it in section 3.3.)³

SC is a language in which all non-D-linked wh-phrases must be fronted in the syntax (for explanation for the exceptional behavior of D-linked wh-phrases, see fn. 4). This also holds for echo wh-phrases. Thus, (3b-d) and (4) are ungrammatical even as echo questions (see, however, fn. 4).

- (3) a. Ko šta gdje kupuje?
 who what where buys
 'Who buys what where?'
 b. *Ko šta kupuje gdje?
 c. *Ko gdje kupuje šta?
 d. *Ko kupuje šta gdje?
- (4) ?*Jovan kupuje šta?
 Jovan buys what

Rudin (1988) argues that only the first of the fronted wh-phrases in SC moves to SpecCP, checking the strong +wh-feature of C in current terms. Other fronted wh-phrases are located in a lower position. Bošković (1997b, c, 1998b, c, 1999, see also section 3.3.3) argues that in fact no wh-

²This line of work has actually originated with Pesetsky, whose work antecedes that of Franks and Hiramatsu. However, it is not quite as explicit as Franks's in some respects that are directly relevant to our current purposes. Notice also that Franks's work is based on Slavic cliticization, the main subject of inquiry of this book. This is why I am using Franks (1998a) as a representative of this line of research.

³The arguments for Franks's position given in section 3.1.1 are taken from Bošković (2000d). See this work for a more comprehensive discussion of the issues discussed in this section.

phrase has to move to SpecCP in SC questions like (3). Apparently, something independent of the +wh-feature of C forces all SC wh-phrases to move in the overt syntax. I will refer to this obligatory movement of SC wh-phrases that is not motivated by checking the strong +wh-feature of C as non-wh-fronting. Stjepanović (1995) argues convincingly that focus is the driving force of non-wh-fronting. She shows that contrastively focused non-wh-phrases move overtly in SC. (*Jovana* in (5) is contrastively focused.)

- (5) JOVANA_i su istukli t_i.
 Jovan are beaten
 ‘Jovan, they beat.’

She furthermore argues that SC wh-phrases are inherently focused and therefore must undergo focus movement. This is not surprising since similar claims have been made with respect to a number of languages, for example, Aghem, Basque, Hungarian, Somali, and Quechua. (See Horvath 1986, Rochemont 1986, and Kiss 1995, among others. See also these works for semantic motivation behind the analysis.) In fact, Horvath (1986) argues that if a language has a special position for contrastively focused phrases, wh-phrases will move to that position. (For a wh/focus connection along somewhat different lines, see Calabrese 1987.)⁴

Stjepanović argues that SC wh-phrases have a strong focus feature, which forces them to

⁴As discussed in Bošković (2000d), another argument for the focus movement analysis is provided by the fact that in contrast to non-D-linked wh-phrases, D-linked wh-phrases, which are resistant to focusing because their range of reference is discourse given (see Bošković 2000d), can remain in situ. (D-linked wh-phrases can optionally move. However, it is shown in Bošković 2000d that the landing site of this movement is not the same as the landing site of obligatory movement of non-D-linked wh-phrases. In other words, we are not dealing here with an optional application of focus movement.)

- (i) Ko je kupio koju knjigu?
 who is bought which book
 ‘Who bought which book?’

Bošković (2000d) observes that echo wh-phrases actually can remain in situ on the reading on which an echo question, such as (ii), is used to express surprise, which is not possible on the reading on which the echo question is used to ask for the information the echo questioner has not heard.

- (ii) (?*) Ona je poljubila koga?
 she is kissed who
 ‘She kissed who?’

As noted in Bošković (2000d), this state of affairs can be accounted for under the focus movement analysis, since the value of the echo wh-phrase is fully known to the speaker as well as the hearer on the surprise reading, but not on the request for repetition reading. (Note that focus represents new information.) For more evidence for the focus movement analysis, see Bošković (2000d) and Stjepanović (1995). See also Boeckx and Stjepanović (2000), who attempt to establish a connection between wh-movement and cliticization in SC and Bulgarian in terms of their discourse properties.

move overtly to the focus-checking head. The analysis is adopted in Bošković (1998c). In Bošković (1999) I adopt a slightly different analysis of multiple movement to the same position, where such movement is reanalyzed in terms of Attract. I argue that certain heads are lexically specified as being required to attract all instances of a particular feature. (I will refer to such heads as Attract all F heads). The focus head in SC is an Attract all F head. It attracts all elements bearing a +focus feature.

Bošković (1997b, 1998b) notes that there are certain exceptions to the obligatoriness of fronting of SC wh-phrases. Thus, a wh-phrase is not fronted in SC if it is phonologically identical to another fronted wh-phrase, as illustrated in (6). (This fact was pointed out to me by Wayles Browne (personal communication).)

- (6) Šta uslovljava šta?
 what conditions what

In Bošković (1997b, 1998b) I concluded that we are dealing here with a low level PF effect, assuming that the information concerning the pronunciation of wh-phrases is not accessible to the syntax. Clearly, what is at stake here is the actual phonological form of the fronted wh-phrases: the second wh-phrase does not move if it is homophonous with the first fronted wh-phrase.⁵ Apparently, SC does not allow sequences of homophonous wh-words. To avoid formation of such sequences a wh-phrase can remain in situ. Notice that in (7) the second wh-phrase must front. As a result of the presence of the adverb, fronting the second wh-phrase does not create a sequence of homophonous wh-words.

- (7) a. Šta neprestano šta uslovljava?
 what constantly what conditions
 ‘What constantly conditions what?’
 b. ?*Šta neprestano uslovljava šta?

Leaving a wh-phrase in situ thus can be done only as a last resort when it is necessary to avoid forming a sequence of homophonous wh-words. As noted above, we must be dealing here with a low level phonological/PF effect if the information concerning the pronunciation of wh-phrases is not accessible to the syntax. To capture this effect we need a PF constraint against sequences of homophonous wh-phrases in SC. Billings and Rudin (1996) in fact propose such a constraint for Bulgarian to account for the following Bulgarian constructions:⁶

⁵The second wh-phrase can be marginally fronted if very heavily stressed. With a neutral stress, it must remain in situ. *Šta šta uslovljava is unacceptable.

⁶One of my Bulgarian informants does not have the constraint in question. Billings and Rudin observe that similar constraints are found in other languages, for example English (Ross’s 1972 Double-*ing* constraint), Italian

- (8) a. *Koj na kogo kogo e pokazal?
 who to whom whom is pointed-out
 ‘Who pointed out whom to whom?’
 b. Koj kogo na kogo e pokazal?

The constraint straightforwardly accounts for the contrast (8). Notice that we cannot be dealing here with a Superiority effect, which is in Bulgarian instantiated through an ordering constraint on

(Napoli’s 1976 constraint on sequences of clitics), Turkish (Kornfilt’s 1986 constraint against sequences of compound and possessive markers, which can be homophonous), and Russian and Polish, which disfavor arguments with the same case in nominalizations (see Rappaport 1992 and Dziwirek 1993). Golston (1995) observes a similar kind of effect in Ancient Greek, which, for example, disallows homophonous sequences of articles, and Japanese (some instances of the Case-marker drop). SC has this kind of effect in other constructions as well. As shown in (i), the accusative feminine clitic *je* is replaced by *ju* when adjacent to the third person singular auxiliary *je* ‘is’. (The effect illustrated in (i) is similar to the effect Napoli 1976 reports for Italian, where two clitics that are normally both pronounced as [si] are pronounced as [č̣i si] when adjacent. See also Anderson 1996 for some discussion of the SC effect under consideration.)

- (i) a. Oni *su je*/**ju* zaboravili.
 they are her forgotten
 ‘They forgot her.’
 b. On *ju*/**je je* zaboravio.
 he her is forgotten
 ‘He forgot her.’

Arthur Stepanov (personal communication) observes another instantiation of the constraint against homophonous sequences of wh-phrases in Russian. He observes that although the copula is normally phonologically null in Russian, it has to be realized in the Russian counterpart of *Who is who*, presumably to avoid a formation of the sequence *kto kto*.

- (ii) a. Kto *(est’) kto?
 who is who
 b. Kto *(est’) professor?
 who is professor
 c. Kto *(est’) Ivan?

Howard Lasnik (personal communication) observes another relevant example from English. Possessive of *boys* must be *boys’* [boyz] and not *boys’s* [boyziz] even though the relevant phonetic sequence is possible, as in the family name *the Boys’s*. This indicates that we are dealing here with a morphological rather than a phonetic effect. (The same could hold for the examples discussed above. See in this respect the discussion of the *je je* effect in Anderson 1996.)

Golston (1995) attempts to derive the anti-homophony effect from the Obligatory Contour Principle. His exact analysis, however, cannot be extended to all the cases considered here. (Notice also that the anti-homophony effect is not universal. In fact, an exception to it is attested even in Bulgarian, where *Koj koj e* ‘who is who?’ is acceptable. Other sequences of homophonous wh-phrases are disallowed in Bulgarian. In fact, Cedric Boeckx (personal communication) observes that speakers who can replace accusative *kogo* with *koj* reject even constructions like *Koj koj udari* ‘Who hit whom’.)

fronted wh-phrases.⁷ In Bošković (1997d, 1998c, 1999) I show that only the highest wh-phrase is sensitive to Superiority, i.e., the highest wh-phrase moves first (and is located first in the linear order), the order of movement of other wh-phrases (and their linear order) is in principle free. This is illustrated by the following constructions.⁸

- (9) a. Kogo kak e tselunal Ivan?
whom how is kissed Ivan
'How did Ivan kiss whom?'
b. ?*Kak kogo e tselunal Ivan?
- (10) a. Koj kogo kak e tselunal?
who whom how is kissed
'Who kissed whom how?'
b. Koj kak kogo e tselunal?
- (11) a. Kogo kakvo e pital Ivan?
whom what is asked Ivan

⁷See Rudin (1985, 1988), Bošković (1997d, 1998c, 1999, 2000d), Richards (1997, 1998b), and Pesetsky (2000), among others. One argument that the fixed order of wh-phrases in Bulgarian (i) is a result of Superiority concerns the fact that (ib) improves with D-linked (in the sense of Pesetsky 1987) and echo wh-phrases. (*Koj* in (id) is an echo wh-phrase.) The same effect obtains with Superiority violations in English (see (ii)). Notice that all authors cited above argue that the wh-phrase that comes first in the linear order in Bulgarian multiple wh-fronting constructions is the one that moves first. The second wh-phrase either right-adjoins to the first wh-phrase, located in SpecCP, as in Rudin (1985, 1988) and Bošković (1997b, d), or moves to a lower Spec of C (the first wh-phrase is located in the higher Spec of C), as in Richards (1997, 1998b) and Pesetsky (2000) (see also Koizumi (1994)).

- (i) a. Koj kakvo e kupil?
who what is bought
'Who bought what?'
b. *Kakvo koj e kupil?
c. ?Koja kniga koj čovek e kupil?
which book which man is bought
'Which man bought which book?'
d. ?Kakvo KOJ e kupil
- (ii) a. Who bought what?
b. *What did who buy?
c. Which book did which man buy?
d. What did WHO buy?

⁸As argued in Bošković (1997d), the accusative wh-phrase checks the strong +wh-feature of C in (9) rather than the adjunct wh-phrase because the accusative wh-phrase moves to its Case-checking position prior to wh-movement, thus ending up higher than the adjunct wh-phrase prior to wh-movement. The reader is referred to Bošković (1998c, 1999) for a Superiority account of the full range of facts pertaining to ordering of fronted wh-phrases in Bulgarian based on the economy account of Superiority, on which Superiority effects follow from the requirement that the strong +wh-feature of C (a formal inadequacy of the interrogative C that is satisfied by moving a wh-phrase to SpecCP) be checked in the most economical way, i.e. through the shortest movement possible. (For relevant discussion, see also Billings and Rudin 1996, Citko 1998, Hornstein 1995, Pesetsky 2000, and Richards 1997, 1998a, b.)

- ‘Whom did Ivan ask what?’
 b. ?*Kakvo kogo e pital Ivan?
 (12) a. Koj kogo kakvo e pital?
 who whom what is asked
 ‘Who asked whom what?’
 b. Koj kakvo kogo e pital?

Given these facts, Superiority cannot account for the Billings and Rudin data in (8). Notice also that (8a) improves when the third wh-phrase remains in situ (this is not noted by Billings and Rudin), which is not unexpected if the unacceptability of (8a) is indeed due to a PF constraint against sequences of homophonous wh-phrases. The third wh-phrase cannot remain in situ in (8b), which confirms that leaving a wh-phrase in situ is a last resort device for saving a multiple wh-question from violating the PF constraint in question. (Recall that the linear order of wh-phrases corresponds to the order of their movement to SpecCP.)

- (13) a. Koj na kogo e pokazal kogo?
 who to whom is shown whom
 ‘Who showed whom to whom?’
 b. ??Koj kogo e pokazal na kogo?

How can this state of affairs be captured formally? We appear to be dealing here with a rather intricate interplay of phonology (the PF constraint in question) and syntax (the usual obligatoriness of fronting of wh-phrases in the languages under consideration, which I assume is a syntactic effect.) Consider SC (6). Clearly, we do not want the second *šta* to fail to undergo focus movement in the syntax. First, since the motivation for the exceptional behavior of the wh-phrase with respect to focus movement would be phonological this analysis would require look-ahead from the syntax to the phonology, which I am arguing against here. Second, if the second *šta* fails to move in the syntax either the strong focus feature of *šta* or the Attract all +focus elements property of the focus-checking head (depending on which analysis of the obligatory focus movement of wh-phrases in SC is adopted) will fail to be satisfied. In less technical terms, the ungrammaticality of (3b-d) and (4) indicates that there is a syntactic requirement, namely focus, that forces all wh-phrases in SC to move in the overt syntax. (The precise identity of the syntactic requirement is actually not important here.) This should also hold for the second wh-phrase in (6), which then also must undergo focus movement in the overt syntax. As a result, (6) must have the following structure in the output of the syntax. (I am ignoring the lower copy of the first *šta*.)

- (14) [_{FP} Šta št_i [uslov]java št_i]

Recall now Franks's claim that the pronunciation of the head of a non-trivial chain is merely a preference, the tail of the chain being allowed to be pronounced if this would help avoid a PF violation. Given this claim and given that, as suggested above, there is indeed a PF constraint against consecutive homophonous wh-words in SC, we are allowed to pronounce the lower copy of the second *šta* in the PF of (14).

(15) $[_{FP} \check{S}ta \check{s}ta_i [uslovljava \check{s}ta_i]]$

This allows us to avoid violating the PF constraint in question. Franks's claim thus enables us to derive (6) and account for the contrast between (6) and (3b-d)/(4) without violating the syntactic requirement that forces all wh-phrases to move overtly in SC (the second *šta* does undergo focus movement), without look-ahead from the syntax to the phonology, and without any PF movement. Notice also that the analysis provides evidence for the copy theory of movement.

Consider now how the Bulgarian data in (13) can be accounted for under this analysis. In the syntax, (13a-b) have the structures in (16), with relevant copies indicated. (The order of the two objects in their base-generated position is irrelevant. The precise position of the subject prior to wh-movement is also irrelevant. Recall also that the order of fronted wh-phrases reflects the order of movement to SpecCP. As discussed above, the highest wh-phrase must move first, the order of movement of other wh-phrases, which either right adjoin to the first wh-phrase or move to lower SpecCPs, is free.)

(16) a. $Koj_i na kogo_j kogo_k e koj_i pokazal na kogo_j kogo_k?$
 b. $Koj_i kogo_j na kogo_k e koj_i pokazal na kogo_j kogo_k?$

In PF, we need to determine which copies of the three non-trivial wh-chains to pronounce. Consider first (16a). Since we are dealing with a PF operation, it seems plausible that this should be done left-to-right.⁹ We then first examine the chain *koj koj*. Since nothing goes wrong if this chain is pronounced in the head position, we pronounce the initial *koj*. Next, consider the chain *na kogo na kogo*. Again, no PF violation takes place if we pronounce the head of the chain. (Nothing rules out the *koj na kogo* sequence.)¹⁰ At this point we then have the following sequence in the beginning of the sentence: *koj na kogo*. Now we consider the chain *kogo kogo*: if we pronounce *kogo* in the head of the chain we violate the PF constraint against sequences of homophonous wh-

⁹The analysis is easily restatable in structural terms (higher-to-lower), especially under the multiple-specifiers analysis of multiple wh-fronting in Bulgarian.

¹⁰Notice that crucially, no look-ahead is allowed. The decision whether to pronounce the head or the tail of the *na kogo na kogo* chain is determined locally without look-ahead in the spirit of Collins (1997). The decision cannot be affected by *later* decisions concerning pronunciation of other chains. (This is so unless we otherwise cannot derive a legitimate PF output; see chapter 4 for relevant discussion.)

words. In order not to do that we pronounce the tail of the chain. We thus derive (13a). Consider now (16b). It is easy to verify that if we scan the structure from left to right when determining which copies to pronounce, no PF violation arises if we pronounce the heads of all three wh-chains. We then must pronounce the initial wh-phrases, which gives us (8b). Notice that (13b) is underivable. The contrasts in (8) and (13) are thus accounted for.

3.1.1.2 Echo wh-phrases in multiple questions in Romanian. Certain otherwise puzzling facts concerning multiple wh-fronting constructions in Romanian can also be profitably analyzed by appealing to the pronunciation of lower copies of non-trivial chains. An example multiple wh-fronting construction from Romanian is given in (17).

- (17) Cine ce a adus?
 who what has brought
 ‘Who brought what?’

Comorovski (1996) shows that, like SC, Romanian obligatorily fronts wh-phrases, including wh-phrases in echo questions. Thus, (18) is ungrammatical even as an echo question.¹¹

- (18) *Ion a adus ce?
 Ion has brought what

Comorovski observes that there are some exceptions to the obligatoriness of fronting of echo wh-phrases in Romanian. Echo wh-phrases have to stay in situ in so called second-order questions, i.e. questions that require a question as an answer. (Notice that the constructions in (19) are unacceptable as true, non-echo questions. In non-echo questions the second wh-phrase also must move.)

- (19) a. Q: Cine a uitat să deschidă parasuta?
 who has forgotten to open parachute-the
 ‘Who forgot to open the parachute?’
 Echo Q: Cine a uitat să deschidă ce (anume)?
 who has forgotten to open what exactly
 ‘Who forgot to open what exactly?’
 b. Q: Când ai fost ultime oară în Madagascar?

¹¹Not all of my informants share Comorovski’s judgment concerning echo questions. I focus here on the dialect in which (18) is unacceptable even as an echo question.

- when you-have been last time in Madagascar
 ‘When have you last been in Madagascar?’
 Echo Q: Când am fost ultime oară unde?
 when have-I been last time where
 ‘When have I last been where?’
- c. Q: Ce a spus Mădălina?
 what has said Madalina
 ‘What did Madalina say?’
 Echo Q: Ce a spus cine?
 what has said who
 ‘What did who say?’

Following a suggestion by John Bowers, Comorovski argues that the explanation for the occurrence of *wh*-phrases *in situ* in second-order echo-questions lies in their intonation. Comorovski observes that true questions in Romanian have a melodic peak on the stressed syllable of the question word, which is immediately followed by a falling contour. Echo *wh*-questions have a rising pattern with two tonal contour peaks: the first one on the stressed syllable of the question word and the second one on the last stressed syllable of the sentence. As a result, if both the echo and the non-echo *wh*-phrase are fronted it is impossible to assign a consistent melodic contour to the string that results from the fronting. If the echo *wh*-phrase does not move in (19) another type of intonation is possible. Up to the *wh*-*in-situ* the question then has a falling contour, similar to true *wh*-questions. (The intonation could not start falling immediately after the true question word, as required, if the true question word were immediately followed by the echo *wh*-word.) The *in situ* echo *wh*-phrase is then pronounced with a sharply raised pitch. The intonation of the *in situ* second order echo questions thus combines the melodic contours of true questions and echo questions.

The question is now how this phonological effect on the form of echo *wh*-questions in Romanian can be instantiated formally. The ungrammaticality of (18) indicates that, as in SC, in Romanian, echo *wh*-phrases must be fronted in the syntax. The same then holds for the echo *wh*-phrases in (19). Ignoring copies left by *wh*-movement of the first *wh*-phrase (in Romanian all fronted *wh*-phrases are located in the interrogative SpecCP; see Rudin 1988), the constructions in (19) then should abstractly have the following structure in the output of the syntax:

- (20) true-*wh* echo-*wh*_iverb echo-*wh*_i

As discussed above, if the head of the chain created by the movement of the echo *wh*-phrase is pronounced the construction cannot be assigned proper melodic contour, resulting in a PF violation. The violation can be avoided if, instead of the head of the chain, the tail of the chain is

pronounced. The construction can then be assigned a proper intonation pattern.

(21) true-wh echo-wh_iverb echo-wh_i

Romanian echo wh-questions thus provide further evidence for the proposal that a chain can be pronounced in a position that is lower than the head of the chain if this will help avoid a PF violation.

Notice also that the current analysis explains why the second wh-phrase in (19) has to be fronted on the non-echo reading. Since on the non-echo reading the second wh-phrase is not pronounced with a sharply raised pitch the PF problem that arises on the echo-question reading of the second wh-phrase does not arise on the non-echo reading. PF then does not license lower pronunciation of the second wh-phrase on the non-echo reading the way it does on the echo reading. Lower pronunciation is then disallowed.

It appears that under the most natural interpretation of the pronounce-a-copy analysis, we would expect successive cyclic movement to have a reflex in the pronunciation of the constructions under consideration. Franks (1998a) actually suggests that if the highest member of a non-trivial chain cannot be pronounced for PF reasons, then the next highest member is pronounced. It is not clear why we should have this restriction. At any rate, unless we specifically stipulate that only the head or the very tail of a chain can be pronounced it appears that the second *șta* in the SC construction under consideration and the echo wh-phrase in the Romanian construction would not have to be pronounced in their base-generated positions. The test in question cannot be run in SC for the *what what* construction due to interfering factors. As discussed in Bošković (1997c), SC has more than one position for focus licensing of wh-phrases, as a result of which it is difficult to determine in more complicated constructions whether we are dealing with a pronunciation of a copy of the second *what*, or the head of the chain created by focus movement of the second *what*. The same problem arises with Romanian echo wh-constructions since Romanian appears to have more than one position in which moving echo wh-phrases can be licensed. The problem, however, does not arise in Bulgarian and Romanian *what what* constructions since in these languages, only the interrogative C can license non-wh-fronting of non-echo wh-phrases. Unfortunately, the relevant facts are not clear. (Only one copy of the second wh-phrase can and must be pronounced. Notice that (22a) and (23a) differ from (22b) and (23b), where the indicated pronunciation is the *only* possibility. % indicates variation in judgments.)¹²

¹²Romanian, which, as noted above, otherwise always fronts non-echo wh-phrases, behaves like SC and Bulgarian with respect to the *what what* construction, as illustrated in (i). (One of my Romanian informants, however, does not have the *what what* constraint.)

(i) a. Ce precede ce?

- (22) a. Kakvo (*kakvo) misli (*kakvo) Ivan (%kakvo) će (kakvo) obuslavlja (kakvo)?
 what what thinks Ivan that conditions
 ‘What does Ivan think conditions what?’
 b. Koj kakvo misli Ivan će obuslavlja?
 who what thinks Ivan that conditions
 ‘Who does Ivan think conditions what?’
- (23) a. Ce (*ce) crede (*ce) Ion (*ce) că (%ce) a (*ce) determinat (ce)?
 what what thinks Ion that has determined
 ‘What does Ion think determined what?’
 b. Cine ce crede Ion că a determinat?
 who what thinks Ion that has determined
 ‘Who does Ion think determined what?’

It appears that the most plausible candidate for an intermediate landing site of *wh*-movement is the embedded SpecCP. The pre-verbal copy in at least the Bulgarian construction could be located in the Case-checking position of *what*, given that, as argued in Bošković (1997d), accusative *wh*-phrases pass through their Case-checking position on their way to SpecCP.¹³ So, the only unambiguous intermediate copy of *wh*-movement itself is the one immediately preceding the complementizer. The judgments of my informants differ with respect to the possibility of pronouncing the second *wh*-phrase in that position, most of them rejecting this possibility. However, there are several interfering factors here. First, something like the doubly filled Comp filter could be an interfering factor. Notice also that at least in some cases, Bulgarian and Romanian are not sensitive to the *wh*-island constraint, which could be interpreted as indicating that Bulgarian and Romanian *wh*-phrases do not have to stop in SpecCP, another interfering factor.¹⁴ Another interfering factor is Richards’s (1997, 1998a) Principle of Minimal Compliance, the gist of which

-
- what precedes what
 b. *Ce ce precede?

Among my informants who have the *what what* constraint, both Bulgarian informants can pronounce the second *what* just before the verb and one can pronounce it before the complementizer. Among my Romanian informants, only one allows the indicated intermediate pronunciation.

¹³There is an interfering factor with the attempt to place the *wh*-phrase just before the main verb in the Romanian construction. Only certain clitic-like adverbs can intervene between the auxiliary and the participle, which suggests that the auxiliary in this construction might be a verbal clitic (see Dobrovie-Sorin 1994:10-11).

¹⁴Under the analysis presented by some authors (see Rudin 1988, Koizumi 1994, and Richards 1997, among others), Bulgarian *wh*-phrases actually move through SpecCP even in *wh*-island configurations, which would eliminate the interfering factor. The analysis relates the resistance of Bulgarian to the *wh*-island constraint to the possibility of multiple *wh*-fronting in Bulgarian. See, however, Bošković (1998b) for a criticism of this analysis.

is that every requirement needs to be satisfied only once. Richards (1997, 1998a) claims that in multiple wh-fronting constructions in which more than one wh-phrase moves to the same interrogative CP projection, only the movement of the first wh-phrase has to satisfy Subjacency. The movement of the second wh-phrase (or any other wh-phrase) is not sensitive to Subjacency. This is illustrated by the following examples from Bulgarian.

- (24) a. *Koja kniga_i otreče senatorăt [mălvata će iska da zabrani t_i]
 which book denied senator-the rumor-the that wanted to ban
 ‘Which book did the senator deny the rumor that he wanted to ban?’
 b. ?Koj senator_i koja kniga_j otreče t_i [mălvata će iska da zabrani t_j]
 which senator which book denied rumor-the that wanted to ban
 ‘Which senator denied the rumor that he wanted to ban which book?’

According to Richards, the first wh-phrase that moves to SpecCP, *koj* (recall that the linear order of wh-phrases indicates their order of movement to SpecCP), satisfies Subjacency with respect to the matrix Comp in the constructions under consideration. Given his Minimal Compliance Principle, the second wh-phrase does not have to satisfy Subjacency. Its movement could then plausibly proceed in one fell swoop. Given the Minimal Compliance Principle, the second wh-phrase in (22a) and (23a) does not have to undergo successive cyclic movement to the matrix SpecCP (the first wh-phrase satisfies subjacency in this construction). Its movement could then plausibly proceed in one fell swoop. In fact, if we assume that successive cyclic movement takes place in order to satisfy subjacency the second wh-phrase in the constructions under consideration could not undergo successive cyclic movement; it would actually have to move in one fell swoop.

Before closing this section I note another argument for the current analysis. Under the analysis of wh-in-situ constructions argued for in this section, the wh-phrase in situ undergoes full phrasal movement in the overt syntax. As a result, we might expect the wh-phrase in situ in the constructions under consideration to license other elements from the putative raised position, given an appropriate licensing relation. One relevant phenomenon is parasitic gap licensing. Since Bulgarian and SC do not have the parasitic gap construction I focus here on Romanian.¹⁵ The

¹⁵Bulgarian and SC have the counterparts of (26), but I believe that in these languages such constructions should be analyzed as involving Across-the-Board (ATB) movement. (Other standard parasitic gap constructions from English are unacceptable in these languages.) For what it is worth, the relevant judgment from Bulgarian is given in (i).

- (i) a. ?(?)Kakvo opredelja kakvo bez da očakva?
 what determines what without that anticipates
 ‘What determines what without anticipating?’
 b. *Koj opredelja kakvo bez da očakva?

relevant constructions are given in (25) and (26), which contrast with (27). (Capital letters indicate an echo wh-phrase.)¹⁶

- (25) Cine a citit CE fara sa claseze?
 who has read what without subj.particle file.3p.sg
 ‘Who read what without filing?’
- (26) Ce precede ce fara sa influenteze?
 what precedes what without subj.particle influence.3p.sg
 ‘What precedes what without influencing?’
- (27) cf. *Cine a citit cartea fara sa claseze?
 who has read book-the without subj.particle file.3p.sg
 ‘Who read the book without filing?’

The fact that a wh-in-situ can license a parasitic gap provides strong evidence for the analysis presented here, on which the wh-in-situ in the constructions under consideration is actually undergoing syntactic movement in the overt syntax in spite of being pronounced in situ and is therefore high enough in the tree to license the parasitic gap in (25)-(26). Notice that (25)-(26) contrast in the relevant respect with their English counterparts:

- (28) a. *Who read WHAT without filing?
 b. *What precedes what without influencing?

This is not surprising under the current analysis, since the Romanian and English constructions receive a very different analysis in spite of the superficial similarity. In contrast to the wh-phrase in situ in the English constructions, which might remain in situ throughout the derivation, the wh-phrase in situ in the Romanian constructions undergoes full phrasal wh-movement in the overt syntax, which does not differ syntactically in any relevant respect from, for example, overt wh-

who determines what without that anticipates

¹⁶All of my informants accept (25). The judgments are divided for (26), with the majority of my informants accepting the sentence. Notice also that there are potentially interfering factors in the test run here. It is possible that phonological information is also involved in parasitic gap licensing. (For an indication that this might be the case, see Franks 1993). This might help us account for the judgment of the speakers who do not accept (26), given that under the pronounce-a-copy analysis, the licensor is not phonologically realized in its raised position. (Notice also that there are analyses, for example, the sideward movement analysis presented in Nunes 1995, 1998, under which we would not necessarily expect parasitic gaps to be licensed in the constructions under consideration under the current analysis of these constructions. A Nunes-style analysis might be appropriate for the speakers who do not accept (26) as well as for the ATB construction from the previous footnote. (Nunes extends his analysis of parasitic gaps to ATB movement.)

movement of *what* in (29). It is then no surprise that (25)-(26) pattern with (29) rather than (28).

(29) What did John file without reading?

3.1.1.3 Romanian echo wh-phrases within islands. Comorovski (1996) observes another exception to the obligatoriness of wh-fronting of echo wh-phrases in Romanian which concerns islandhood. She observes that echo wh-phrases can remain in situ in Romanian within non-relativized minimality islands (more precisely, non-wh-islands. Wh-islands are not islands for Romanian echo wh-phrases.) According to Comorovski, (30) contrasts with (18) on the echo-question reading. Notice that overt wh-movement out of the islands in question is not allowed in Romanian regardless of the reading (echo or non-echo).¹⁷

(30) Ion a auzit zvonul că Petru a cumparat CE?

Ion has heard rumor-the that Peter has bought what
‘Ion heard the rumor that Peter bought what?’

(31) *Ce a auzit Ion zvonul că Petru a cumparat?

Given the assumption that Romanian wh-phrases always move overtly in the syntax even on the echo reading, as indicated by (18), which is ungrammatical on both the echo and non-echo-reading, (30) has to involve movement of the echo wh-phrase in the overt syntax. In Bošković (2000d), I suggest that the head of the chain created by the movement is deleted in PF and a lower copy is pronounced. (The deletion of the head of the chain has to be sanctioned by PF reasons. I return to

¹⁷Notice that I am again focusing on the dialect in which even echo-wh-phrases must move. In this dialect, (i) contrasts with (30).

(i) *Ion crede că Petru a cumparat CE?
Ion believes that Peter has bought what

Recall also that, as noted above, there is more than one possibility for the landing site of echo-wh-phrases. For example, the echo wh-phrase in (i) can either stay within the embedded clause or move to the matrix clause, as illustrated by (ii). (*Ion* in (iia) can be a topic located outside of the CP.)

(ii) a. Ion CE crede că Petru a cumparat?
b. Ion crede că CE a cumparat Petru?

I assume that the same options are in principle available for the echo wh-phrase in (30). As will become clear during the discussion below, only the derivation on which the echo wh-phrase moves syntactically into the matrix clause can yield (30), where the echo wh-phrase is pronounced in situ.

what these PF reasons might be below.)¹⁸

(32) $\text{Ce} \dots [\text{NP} \dots \text{ce}]$

Under the pronounce-a-copy analysis, (30) and (31) have the same derivation in the overt syntax. As a result, accounting for the contrast between (30) and (31) becomes difficult. The only way to preserve the pronounce-a-copy analysis seems to be to assume that islandhood is at least to some extent a PF property. Some older approaches to islandhood in fact do assume this, for example, Perlmutter (1972), revived recently in a slightly different form in Pesetsky (1997a, b). (For another recent analysis along these lines, see Lasnik 2000.) According to Perlmutter, syntactic movement is not constrained by islands. What is constrained by islands is the obligatory deletion of the trace, "shadow pronoun" for Perlmutter, copy in current terms, left by movement. The deletion fails when an island intervenes between the head of a chain and its copy. Interpreting this as a PF violation leads us to pronounce a copy instead of the head of the chain under Franks's approach to the pronunciation of non-trivial chains.

At first sight, the pronounce-a-copy analysis of (31) appears to be based on a rather unorthodox view of locality restrictions on movement and licensing of traces. This is actually not true. The analysis is based on the more or less standard view of the saving effect of resumptive pronouns with respect to locality of movement, which implies that at least to some extent, locality is a PF phenomenon. It is well-known (see Shlonsky 1992, Pesetsky 1997a, b and references therein) that in a number of languages (for example, Hebrew, Arabic, Irish, and English), a locality violation can be saved by phonologically realizing a copy within the island as a resumptive pronoun. As discussed in Shlonsky (1992) and Pesetsky (1997a, b), among others, using a resumptive pronoun in the languages in question is a last resort strategy that is used only when movement would otherwise result in a violation of locality restrictions on movement and/or licensing of traces.

¹⁸There is one potential problem for this analysis. Romanian questions display a V-2 effect. Normally, in both subject and non-subject questions, verbal elements occur in the second position on both the echo and the non-echo reading of the fronted wh-phrase. As a result, they precede the subject in non-subject questions.

- (i) *Ce a spus Mădălina?*
 what has said Madalina
 'What did Madalina say?'

However, under the pronounce-a-copy analysis, in (30) we are dealing with a non-subject question with the verb following the subject. This is not a problem if the V-2 effect is phonological in nature, as suggested in Boeckx (1998), Chomsky (1995), Rice and Svenonius (1998), and section 3.6 for various languages. (Rice and Svenonius provide particularly strong evidence to this effect.) Alternatively, we could assume that the subject in (30) is located in the pre-SpecCP topic position.

- (33) a. *What are you wondering whether was broken?
 b. ?What are you wondering whether it was broken?
 c. *Which employee did you hear the rumor that they had fired?
 d. Which employee did you hear the rumor that they had fired him?
 e. *What did you break it?
 f. *Which employee did they fire him?

Apparently, phonologically realizing a copy within an island can rescue a construction from a locality violation.¹⁹ This, I propose, is exactly what happens in (30). Movement out of the island takes place. The construction is saved from a locality violation by phonologically realizing a copy within the island. The only difference is that in (33b,d) the copy is realized as a resumptive pronoun and in (30) the full copy is pronounced. Pesetsky (1997a, b) proposes that in constructions like (33b,d), the tail of the chain is pronounced as a pronoun due to a constraint that requires copies that are not heads of chains to be as close to unpronounced as possible. (The proposal is in the same spirit as Franks 1998a.) Pronunciation of ϕ -features, i.e. pronominal pronunciation, is the minimal pronunciation. The resumptive pronoun strategy cannot be employed in (30) because quite generally, echo wh-phrases cannot be associated with resumptive pronouns. The relevant judgments are delicate, but (33b,d) seem to be degraded on the echo reading of the fronted wh-phrases, although echo wh-phrases in principle can be fronted in English. (Of course, they can also remain in situ. Notice that the constructions improve if the echo wh-phrases remain in situ, as illustrated by *You are wondering whether WHAT was broken and you heard the rumor that they had fired WHICH employee.*) Since a resumptive pronoun is not an option, the full copy of the wh-phrase is pronounced. Why is it that we cannot phonologically realize both the head and the tail of the wh-movement chain in (30)? Nunes (1995, 1999) argues that generally it is not possible to pronounce both the head and the tail of a non-trivial chain. According to Nunes, the pronunciation of both the head and the tail of a non-trivial chain results in a violation of Kayne's (1994) Linear Correspondence Axiom (LCA). As a result, the chain cannot be linearized. Nunes considers the head and the tail of a chain the same element for the purposes of the LCA (i.e., he considers them to be non-distinct). As a result, realizing both phonologically would result in a conflicting ordering, given the LCA. Suppose we decide to delete neither the head nor the tail of the chain created by movement of *what* in (30). Given the LCA, the wh-phrase will then have to both precede (because

¹⁹For pronounce-a-copy analyses of resumptive pronouns, see Fox (1994) and Pesetsky (1997a, b). We can technically implement the phonological effect on locality restrictions by assuming that phonological realization removes the star assigned to copies/traces due to violations of locality (see Chomsky and Lasnik 1993 for the star-assigning mechanism). Notice that resumptive pronouns in English cannot occur in intermediate positions of wh-movement, as illustrated by **Which employee did you hear the rumor him that they had fired.* It seems plausible to assume that this is a result of more general constraints on pronoun placement in English - resumptive pronouns can occur only in (or, more precisely, the subset of) positions in which pronouns in general can occur in the language.

of *what* in SpecCP) and follow (because of *what* in the base-generated position of the *wh*-phrase) other words in the sentence. Linearization therefore fails. What about the resumptive pronoun examples? Why are they not violating the LCA? It seems plausible that the *wh*-phrase and the resumptive pronoun are considered to be distinct for the purposes of the LCA since they do not receive the same phonological realization. No violation of the LCA then takes place in (33b,d).

Before moving on, let me point out that Franks's and Pesetsky's approach to phonological realization of non-trivial chains are very similar. Forcing a copy that is not the head of a chain to be as close to unpronounced as possible entails that if there is no reason to pronounce such a copy, the copy will not be pronounced. For Franks, and the same appears to hold for Pesetsky, the relevant reasons are phonological, which makes sense given that copy pronunciation is a phonological (PF) phenomenon. In principle, the head of a chain can always be pronounced. Whenever copies (and by copies I mean everything but the head of a non-trivial chain) are all deleted the head of a chain must be pronounced to avoid violating Recoverability of Deletion. When a copy must be fully realized phonologically for independent reasons, the head must be deleted to avoid violating the LCA. With the partial phonological realization of a copy, as in the case of resumptive pronouns, the head of the chain cannot be deleted. Its deletion would lead to a violation of Recoverability of Deletion - a *wh*-phrase and a pronoun obviously cannot be considered non-distinct for the purposes of Recoverability of Deletion.

3.1.2 Double-auxiliary constructions in child English

So far we have seen several examples motivating Franks's claim that a lower copy of a non-trivial chain can be pronounced if this is necessary to avoid a PF violation. All the examples involve A'-movement, i.e. pronunciation of a lower copy of an A'-chain. (For more detailed discussion of the A'-movement cases examined above, see Bošković 2000d, where some additional tests are run and an alternative to the pronounce-a-lower-copy analysis based on Chomsky's 1995 Move F Hypothesis is explored.) A question arises whether similar examples can be constructed with head movement and A-movement. A head movement example is provided by certain facts concerning acquisition of verbal morphology in English, discussed in Hiramatsu (1997, 2000a, b).

It is well documented that children acquiring English often produce double-auxiliary constructions, particularly in negative questions. (34) is an actual child utterance collected by Hiramatsu (1997, 2000a, b):²⁰

²⁰Double-auxiliary constructions in the data Hiramatsu collected were almost exclusively confined to negative questions and in almost all cases involved matching auxiliaries. For recent discussion of double-auxiliary constructions, see also Stromswold (1990), Thornton (1993), and Guasti, Thornton, and Wexler (1994), among others.

(34) What did the smurf didn't buy?

Hiramatsu argues that the negative marker *n't* is misanalyzed by the child as constituent rather than sentential negation. She assumes that constituent negation is adjoined to the phrase it modifies. Apart from the misanalysis of *n't* as constituent negation, (34) is derived in the syntax in the same way as the corresponding questions in the adult grammar. The subject moves to SpecIP, the wh-phrase moves to SpecCP, and I moves to C. All of these movements leave behind copies:

(35) [_{CP} What [_C I [_{IP} the smurf [_I I [_{VP} n't [_{VP} the smurf buy what]]]]]]
 +past +past
 3psg 3psg

In PF, the heads of the chains created by wh-movement and the movement of the subject are pronounced, the corresponding copies being deleted. As for the chain created by I-to-C movement, as in the adult grammar, the head of the chain is pronounced. In order not to violate the Stranded Affix Filter, *do*-support takes place, and the raised I is spelled out as *did*. (*Do* supports not only the raised I, but also the interrogative complementizer, which Bošković (2000a) argues is also a PF affix.) Hiramatsu observes that if the tail of the chain created by I-to-C movement is deleted in PF, the construction would crash in PF because the negative clitic *n't* would not have a proper lexical host (a lexically realized verbal element). She then proposes that in order to avoid a PF violation, the tail of the chain created by I-to-C movement is also phonologically realized. The phonological realization of the tail, *did*, then serves as the host for the negative clitic *n't*.

(36) [_{CP} What [_C did [_{IP} the smurf [_I did [_{VP} n't [_{VP} ~~the smurf~~ buy ~~what~~]]]]]]

If Hiramatsu's analysis is correct we have here another example, this time from child English and involving head-movement, where a copy created by overt movement is pronounced in PF in order to avoid a PF violation. In fact, in the case under consideration both the head and the tail of the chain must be fully pronounced to satisfy PF requirements. In that respect, the example differs from other examples involving pronunciation of lower copies examined above.²¹

²¹Recall that, according to Nunes (1995, 1999), pronunciation of both the head and the tail of a non-trivial chain generally results in an LCA violation. However, Nunes argues that chains involving X⁰-elements, like the chain in Hiramatsu's example, are exceptional in this respect, given that, as suggested in Chomsky (1995), the LCA does not apply within X⁰-elements, or more precisely, word-internally. (I am assuming that *didn't* is converted by morphology into a phonological word and that the LCA applies after this "morphological" restructuring. See Nunes 1999 for relevant discussion.)

3.1.3 Object shift in Scandinavian

Let us now turn to an A-movement case involving pronunciation of lower copies. The case involves the object-shift construction from Scandinavian.²²

It is well-known (see particularly Holmberg 1986) that object shift in Scandinavian can take place in matrix main verb V-2 clauses, but not in auxiliary+participle clauses and embedded clauses that do not involve main verb movement. This is illustrated in (37). (*Ekki* is assumed to mark the left edge of the VP, i.e., it is assumed to be left-adjoined to VP. Notice that embedded clauses in Danish, where, as in other Mainland Scandinavian languages, only pronouns can undergo object shift, do not involve verb movement.)

- (37) a. *Í gær máluðu stúdentarnir húsið_i [VP ekki t_i]* (Icelandic)
 yesterday painted the students the house not
 ‘The students didn’t paint the house yesterday.’
- b. **at Peter den_i [VP læste t_i]* (Danish)
 that Peter it read
 ‘that Peter read it.’
- c. *at Peter [VP læste den]*
- d. **Hann hefur bókina_i [VP lesið t_i]* (Icelandic)
 he has the book read
 ‘He has read the book’
- e. *Hann hefur [VP lesið bókina]*

Bobaljik (1994) provides a very interesting verbal morphology account of the data in (37). He assumes that object shift in Scandinavian is in principle optional and argues that in auxiliary+participle clauses and embedded clauses in which V-movement does not take place, the object shift option is ruled out for morphophonological reasons, namely, due to a violation of the requirement that an affix which is to be phonetically realized on a stem must be adjacent to it in PF. As a result, even if a verb in Scandinavian does not move to I overtly, the verb and I still must be adjacent in PF. In (37b), the PF adjacency requirement cannot be satisfied due to the intervening shifted object. The problem does not arise in (37c), where the object remains in situ.

²²The status of Scandinavian object shift as A-movement is actually controversial. Most relevant literature assumes that the landing site of object shift is SpecAgroP (SpecvP in Chomsky’s 1995 system), an A-position. See, however, Bošković (1997a:211-212, 2000e), Holmberg and Platzack (1995), and Vikner (1995) for serious problems for the standard assumption. The reader is also referred to section 4.6.2 for a more detailed discussion of Scandinavian object shift. Notice, however, that the precise identity of the landing site of object shift does not affect the argument for the pronunciation of lower copies discussed below.

- (38) a. *at [_{IP} Peter I [_{AgroP} den_i [_{VP} læste t_i]]]
 b. at [_{IP} Peter I [_{AgroP} [_{VP} læste den]]]

As for (37d-e), Bobaljik posits a participial affix (I will refer to it as Part), located above the shifted object, which must be adjacent to the participle in PF. The account of (37b-c) then readily extends to (37d-e).²³

- (39) a. *Hann hefur [_{PartP} Part [_{AgroP} bókina_i [_{VP} lesið t_i]]]
 b. Hann hefur [_{PartP} Part [_{AgroP} [_{VP} lesið bókina]]]

As an argument for his analysis, Bobaljik points out that in head-final Germanic languages, object shift can take place even in embedded and auxiliary+participle clauses, i.e. in the absence of V-movement. This is expected under his analysis since due to the head-final nature of these languages, the relevant verbal elements and I and Part remain linearly adjacent even if object shift takes place overtly. (The following Dutch example is taken from Bobaljik 1995.)

- (40) dat veel mensen [_{PartP} [_{AgroP} dat boek [_{VP} gisteren gekocht]] Part] hebben.
 that many people that book yesterday bought have
 ‘that many people bought that book yesterday.’

Bobaljik’s (1994) analysis is based on the assumption that object shift in Icelandic optionally takes place overtly. When it does not take place overtly it presumably takes place in LF. Diesing (1996), however, argues that object shift in Icelandic is not optionally overt. Focusing on constructions involving V-movement, Diesing shows that in such constructions, specific, non-contrastive definite NPs always undergo object shift overtly. Non-specific indefinite NPs, on the other hand, cannot undergo overt object shift. The data in (41)-(43) provide empirical support for Diesing’s claim. (The judgment for (42a-b) holds for the existential, non-specific reading of the indefinite.) In Scandinavian languages where only pronouns undergo object shift, definite pronouns must shift, and indefinite pronouns cannot undergo object shift, as illustrated in (43). (*Alltaf*, *ekki*, *ikke*, and *muligens* are assumed to be left-adjoined to VP. (41)-(43) are taken from Diesing 1996.)

- (41) Context: Does he know Chomsky’s book "Barriers"?
 a. Hann les Barriers_i [_{VP} alltaf t_i] (Icelandic)
 he reads Barriers always

²³I do not assume any actual PF movement here. I assume that the verbal element in the relevant constructions enters the syntax fully inflected, as would be required in Lexical Phonology. The relevant affix head still must be adjacent to the verb in PF. (The abstract affix head might be merging with the verb.)

- ‘He always reads Barriers.’
- b. *?Hann les [_{VP} alltaf Barriers]
- (42) a. *Hann las bækur_i [_{VP} ekki t_i]
 he read books not
 ‘He did not read books.’
- b. Hann las [_{VP} ekki bækur]
- (43) a. Peter læste den_i [_{VP} ikke t_i] (Danish)
 Peter read it not
 ‘Peter did not read it.’
- b. *Peter læste [_{VP} ikke den]
- c. Nei, jag har ingen paraply (Norwegian)
 no I have no umbrella
 men jag kjøper [_{VP} muligens en i morgen]
 but I buy possibly one tomorrow
- d. *men jag kjøper en_i [_{VP} muligens t_i i morgen]

According to Diesing, there are then two semantic classes of direct object NPs: one class always undergoes object shift overtly and the other class never undergoes overt object shift. The apparent lack of overt object shift in embedded clauses and auxiliary+participle constructions with specific, non-contrastive definite NPs is very surprising under this analysis. If, and this is what Diesing suggests, there is something about the semantics of such NPs that requires overt object shift, the question is how that something (see Diesing 1996 for a precise analysis) is satisfied in constructions like (37c,e). Given that PF is responsible for the paradigm in (37), as in Bobaljik’s (1994) analysis, we seem to have here an interaction between phonology and semantics, with phonology overriding semantics. This is very difficult to instantiate under the standard model of the grammar, where phonology and semantics have no direct relationship. Bobaljik (1995) shows that this problem can be resolved by adopting a pronounce-a-copy analysis. He proposes that specific, non-contrastive definite NPs undergo object shift even in embedded and auxiliary+participle constructions, which is what one would expect under Diesing’s analysis. Object shift leaves behind a copy of the moved element. (37c,e) then enter PF with the following structures:

- (44) a. at [_{IP} Peter I [_{AgroP} den [_{VP} læste den]]]
 b. Hann hefur [_{PartP} Part [_{AgroP} bókina [_{VP} lesið bókina]]]

If, as is normally the case, the head of the chain created by overt object shift is pronounced, the constructions will be ruled out in PF because the shifted object disturbs adjacency between I/Part

and the verb. Bobaljik observes that the violation can be voided if instead of the head of the chain created by overt object shift, we pronounce the tail of the chain and delete the head of the chain. I and Part are then adjacent to the verb in PF. (Notice that employing a resumptive pronoun strategy, which is preferable to a full copy pronunciation according to Pesetsky 1997a, b, is not an option here since it would not solve our problem. As discussed above, the head of the chain must be pronounced in a resumptive pronoun construction, so that the PF problem in question would remain.)

- (45) a. at [_{IP} Peter I [_{AgroP} **den** [_{VP} læste den]]]
 b. Hann hefur [_{PartP} Part [_{AgroP} **bókina** [_{VP} lesið bókina]]]

Under Bobaljik's analysis, Scandinavian constructions such as (37c,e) provide more evidence that a lower member of a non-trivial chain can be pronounced instead of the head of the chain if this is necessary to avoid a PF violation. Bobaljik's examples differ from other examples discussed above in that they involve an A-chain (see, however, fn. 22).

3.1.4 Syllabic contraction with Romanian clitics

The last case of pronunciation of a lower copy I will consider before returning to cliticization in SC involves cliticization in Romanian. The case in question will also provide evidence that lower copies of clitics can be pronounced if this is required to satisfy a PF constraint, a mechanism that will be used extensively in the discussion of SC in section 3.2.²⁴

Romanian clitics can undergo syllabic contraction under certain circumstances, which I will refer to as clitic weakening. (Alexander Grosu (personal communication) observes that in some cases, it is actually the host that loses syllabicity.) What is important for our current purposes is that clitic weakening takes place obligatorily before an auxiliary beginning with a vowel (forms of the verb *have*), which is a procliticization context. This is illustrated in (46a-b) (compare (46b) with (46c)).²⁵

²⁴The relevance of the Romanian clitic data discussed below for our current considerations was pointed out to me by Alexander Grosu (personal communication), who is also the source of the Romanian data.

²⁵There is some disagreement concerning the question whether clitic weakening can optionally take place before a main verb beginning with a vowel. According to Alexander Grosu (personal communication), clitic weakening cannot take place in this context. According to Dobrovie-Sorin (1994:71, 77), on the other hand, clitic weakening can optionally take place in this context. What is important for our current purposes is that we are not dealing here with an obligatory clitic weakening context. There is also some disagreement concerning the status of clitic weakening with encliticization. According to Alexander Grosu, clitic weakening is optional with encliticization. According to Dobrovie-Sorin (1994:72), it is obligatory at least in some encliticization environments.

- (46) a. Mi- au ales articolul.
 me.dat have chosen article-the
 ‘They have chosen my article.’
 b. *Îmi au ales articolul.
 c. Îmi au articolul pe masă.
 me.dat have article-the on table
 ‘They have my article on the table.’

An exception to clitic weakening is the feminine singular accusative clitic *o*, which cannot occur before an auxiliary with an initial vowel, a context of obligatory clitic weakening, though it can occur before a main verb beginning with a vowel, which is not an obligatory clitic weakening context.

- (47) a. *O am vazut.
 her have seen
 ‘I have seen her.’
 b. *O aş vedea.
 her would see
 ‘I would see her.’
 c. O am.
 her have
 ‘I have her.’

Instead of (47a-b), we get (48), where the clitic encliticizes to the main verb. Main verb encliticization is ruled out for other pronominal clitics in this context.²⁶

- (48) a. Am vazut-o.
 b. Aş vedea-o.

Alexander Grosu (personal communication) observes that the *o* data, traditionally considered to be totally idiosyncratic, are amenable to the pronunciation-of-a-lower-copy analysis. Assume that *o* lacks the ability to take part in the syllabic reduction process when used proclitically. Assume furthermore that clitic climbing is a real syntactic process involving clitic movement. Finally, let

²⁶Notice that *o* can undergo clitic weakening when encliticizing. Thus, Grosu observes that in a sequence like *cere-o...* ‘ask her...’ *e* loses syllabicity, turning into a glide.

us assume that like all other pronominal clitics, *o* undergoes clitic climbing in auxiliary+lexical verb constructions under consideration, certainly the null hypothesis. Grosu observes that given these assumptions, we will be forced to pronounce the lower copy of *o* in (47a-b). This is the only way to derive a legitimate PF given that clitic weakening is obligatory in the context in question and given that *o* cannot take part in clitic weakening when procliticizing.²⁷ The lower copy could be located either in SpecAgroP or within VP, depending on whether the nonfinite verb undergoes short V-movement above AgroP. (Dobrovie-Sorin 1994:9 shows that the nonfinite verb in this type of construction does undergo movement. In this respect, see also Bošković 1997a, who shows that participles in SC move to a position above the landing site of object shift, so that an NP following a participle can actually undergo object shift.)

- (49) a. Θ am vazut-o.
 b. Θ aș vedea-o.

What happens in a case where there is more than one copy of *o* to choose from? One candidate for such a case involves the verb *putea* ‘can’, the only verb in Romanian that allows a bare infinitival complement. Clitic climbing is obligatory in constructions like (50).

- (50) O pot vedea.
 her can see
 ‘I can see her.’

When this modal is put in the past participle or infinitive, with an auxiliary form that triggers clitic weakening, *o* must encliticize to the modal; it cannot encliticize to its complement.

- (51) a. Am putut-o vedea.
 have can her see
 ‘I have been able to see her.’

²⁷In this respect, see also Dobrovie-Sorin (1994:75-76), who suggests that the pronominal clitic in (46a) is at some point located in the position *o* occupies in (48), which is also the case under the current analysis.

Interestingly, *o* appears to contract with *aș* in (i), resulting in a glide.

- (i) Vedea-o- aș moartă!
 see her would dead
 ‘May I see her dead!’

Grosu suggests that *o* in (i) actually encliticizes to the main verb. The auxiliary then encliticizes to this combination, with accompanying clitic weakening.

- b. Aș putea-o vedea.
 would can her see
 'I would be able to see her.'
- c. *Am putut vedea-o.
- d. *Aș putea vedea-o.

The copy of *o* that is pronounced could be located in SpecAgroP, either in the matrix or the embedded clause, depending on the possibilities for movement of non-finite verbal forms. Either way, if clitics could start within VP, there should be at least one copy of *o* following the last verbal element. Apparently, that copy cannot be pronounced. This can be taken to indicate that when PF prevents phonological realization of the highest copy, the next highest copy must be pronounced at least in the case of clitic movement (see in this respect Franks 1998a). The conclusion is somewhat tentative since clitics have been argued not to originate within VP in languages that have clitic doubling, and Romanian is a clitic doubling language (for relevant discussion and references, see fn. 6, chapter 4). Anyway, I return to the question of which copy of various chains is pronounced in the cases in which PF blocks the pronunciation of the highest copy in section 3.6, and more extensively in chapter 4.

Given all of the above arguments I will adopt the non-standard assumption that lower copies of movement may indeed be pronounced in PF if this is necessary to avoid a PF violation. Why is there a preference for pronouncing heads of chains? We can think of this as phonology trying to be "faithful" to syntax by reflecting syntactic movement whenever it can.²⁸ In slightly different terms, the system is trying to provide evidence for (overt) syntactic movement. An obvious way of doing this for phonologically overt elements is to pronounce them in the moved position. In the cases where we have argued above a lower copy is pronounced, we still know that overt movement might have taken place in spite of the lack of direct evidence through the pronunciation in the raised position. We know that the pronunciation in the raised position is blocked in PF for independent reasons. This serves as a red flag that syntactic movement could have taken place.²⁹

To summarize, when movement of a phonologically overt element takes place, the head of the chain is pronounced unless the pronunciation of the head of the chain would result in a PF violation. In that case, a lower member of the chain is pronounced. The major theoretical significance of this mechanism is that it enables PF to affect word order without actual applications

²⁸Franks (1998a) makes essentially the same point. However, he states the preference in optimality-theoretic terms, which I believe is not necessary. (Note that the term faithful is here used differently than in Optimality Theory.)

²⁹Obviously, with phonologically null elements, the red flag is automatically raised. For an alternative explanation of the preference to pronounce heads of chains, see Nunes (1995, 1999).

of the operation Move in PF. (This is on a par with the filtering effect of PF, discussed in chapter 2.)

Armed with the pronounce-a-copy mechanism I return to SC second position clitics. I will first show how this approach to phonological realization of non-trivial chains enables us to account for a peculiar ordering requirement on the auxiliary clitic *je* without assuming any kind of PF movement. I will then show that a number of facts concerning clitic placement in SC can be accounted for in a principled way under the pronounce-a-copy analysis.

3.2. A PHONOLOGY/SYNTAX MISMATCH: SERBO-CROATIAN *JE*

Recall that in the final PF representation of a clitic cluster containing *je*, *je* must follow all pronominal clitics, in contrast to other auxiliary clitics.

(52) Ona *mu ga je* predstavila.
 she him.dat him.acc is introduced
 ‘She introduced him to him.’

(53) Oni *su mu ga* predstavili.
 they are him.dat him.acc introduced
 ‘They introduced him to him.’

However, as discussed in chapter 2, evidence from VP ellipsis, VP fronting, parenthetical placement, and subject-oriented adverbs placement strongly indicates that in the syntax, *je* precedes (or is higher than) pronominal clitics (see (54)), like other auxiliary clitics (see (55)).

- (54) a. 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.’
- b. *Ona *mu ga je* predstavila, a *i on mu ga je* predstavio.
- c. Dao *ga Mariji je* Ivan.
 given it.acc Marija.dat is Ivan
 ‘Give it to Marija, Ivan did.’
- d. *Dao *je Mariji ga* Ivan.
- e. ?#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.’

- f. *#On *se*, #kao što *sam vam rekla*#, predstavio *je* Petru#.
 g. Jovan *je* pravilno odgovorio Mileni.
 Jovan is correctly answered Milena.dat
 ‘Jovan did the right thing in answering Milena.’
 ‘Jovan gave Milena a correct answer.’
- h. On *joj je* pravilno odgovorio.
 he her.dat is correctly answered
 ‘*He did the right thing in answering her.’
 ‘He gave her a correct answer.’
- (55) a. Vi *ste mu ga* predstavili, a *i mi smo mu ga* predstavili.
 you are him.dat him.acc introduced, and also we are him.dat him.acc introduced
- b. *Vi *ste mu ga* predstavili, a *i mi mu ga smo* predstavili.
 c. Dali *ga Mariji su* Ivan i Stipe.
 given it.acc Marija.dat are Ivan and Stipe
 ‘Give it to Marija, Ivan and Stipe did.’
- d. *Dali *su Mariji ga* Ivan i Stipe.
 e. ?#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.’
- f. *#Oni *se*, #kao što *sam vam rekla*#, predstavili *su* Petru#.
 g. Oni *su* pravilno odgovorili Mariji.
 they are correctly answered Marija.dat
 ‘They did the right thing in answering Marija.’
 ‘They gave Marija a correct answer.’

(54a,c) show that VP ellipsis and VP preposing can affect pronominal clitics without affecting *je*. Affecting *je* by these processes without affecting pronominal clitics leads to ungrammaticality, as illustrated by (54b,d). The contrast between (54a,c) and (54b,d) suggests that *je* is higher than pronominal clitics in the syntax. The fact that, as illustrated by (54g-h), *je* can occur above subject-oriented adverbs (when it does not follow a pronominal clitic) while pronominal clitics cannot points to the same conclusion. That *je* is indeed higher than pronominal clitics in the syntax is conclusively confirmed by the contrast between (54e) and (54f). (For potentially relevant discussion, see also fn. 37 from chapter 2.) In all these respects, *je* behaves like other auxiliary clitics (see (55)). However, as shown in (52), in contrast to other auxiliary clitics, in the final PF representation *je* follows pronominal clitics in the clitic cluster.

How can we account for the dual behavior of *je*? Apparently, somewhere in PF *je* and adjacent pronominal clitics are somehow "switched". Given all the arguments against PF

movement presented so far, it would be desirable to achieve "the switch" without actual PF movement. The proposal that the tail of a chain can be pronounced instead of the head of a chain if a PF condition requires it makes it possible to accomplish that. Before demonstrating, this let me point out that the constructions in (54) provide strong evidence against analyses such as those presented in Tomić (1996a), Franks and King (2000:329-330), and Franks and Progovac (1994), who attempt to account for (52) (i.e. the fact that, in contrast to other auxiliary clitics, *je* follows pronominal clitics) by placing *je* and other auxiliary clitics in different positions syntactically; in particular, by placing *je* below pronominal clitics and other auxiliary clitics above pronominal clitics in the final syntactic representation.³⁰ The data in (54) clearly show that *je* must be higher than pronominal clitics in the syntax.

Let us see now how the dual behavior of *je* can be accounted for. Recall first that Stjepanović (1998a, b) argues based on VP ellipsis facts that pronominal clitics are hierarchically arranged in different maximal projections in the syntax. More precisely, she argues that each pronominal clitic is located in the head of a separate Agr projection, the Agr projections being hierarchically arranged (see also section 2.2.2.2.7 for an alternative). Additional evidence for Stjepanović's proposal is provided by VP fronting and parenthetical-split-clitics constructions, as shown in sections 2.2.2.2.6 and 2.2.2.2.7.

Den Dikken (1994) argues that in SC constructions involving the auxiliary verb *be*, object agreement projections are generated above the VP headed by *be*. Given that in the syntax all clitic forms of the auxiliary *be* precede pronominal clitics, it must be the case that the auxiliary undergoes overt movement above pronominal clitics, probably to the highest head in the split I, namely Agrs (see the discussion below). Constructions involving a dative and an accusative clitic as well as the auxiliary clitic *je* then abstractly have the following structure in the output of the syntax. (There may be some intermediate copies of *je* which do not affect the point made here. As noted in section 2.2.2.2.7, it is possible that the pronominal clitics are located in different specifiers of the same head. This also does not affect the point made here.)

(56) je_i [_{AGR_{io}} dative clitic [_{AGR_{do}} accusative clitic [_{VP} je_i ...]]]

In the final output of the syntax a copy of *je* is thus present both above and below pronominal clitics. Suppose now that there is a low level constraint on the final PF representation requiring that in a clitic cluster, *je* must follow all other clitics. (By clitic cluster I mean clitics contained in the same I-phrase or a clitic group. I discuss the motivation for the constraint in question below.) The constraint would force the pronunciation of *je* in the tail of the chain created by its movement.

³⁰The Franks and King analysis also violates the Head Movement Constraint. Franks and Progovac actually also offer an alternative analysis on which pronominal clitics left-adjoin to *je* and right-adjoin to all other auxiliaries. Needless to say, this analysis is very stipulative.

Since the pronunciation of *je* in the head of the chain would lead to a PF violation, pronunciation in the tail of the chain is sanctioned, in fact, required.³¹ Since on this analysis, *je* is higher than pronominal clitics in the syntax, the data in (54) can be easily accounted for. (The PF constraint in question is irrelevant in (54a-f) since *je* is not a part of a clitic cluster in the final PF representation.) Notice also that the fact that *je* can precede a subject-oriented adverb only when it does not follow a pronominal clitic (see (54g-h)) is also accounted for. The dual behavior of *je* with respect to pronominal clitics - *je* precedes pronominal clitics, i.e., it is higher than pronominal clitics, in the syntax, but follows them in the final PF representation - is thus accounted for without any PF movement.

Consider now how participle initial sentences containing a pronominal clitic and the auxiliary *je*, such as (57), can be derived:

- (57) *Volila ga je.*
 loved him is
 ‘She loved him.’

Recall that the pronominal clitic moves to the AgroP projection overtly, presumably for Case and ϕ -features checking. I assume that the clitic can move to either Agro or SpecAgroP. (This is not unexpected given that being non-branching, a clitic is ambiguous between a head and a phrase in Chomsky’s 1995 system. For some empirical evidence for this state of affairs, see Bošković 1997a:58-60, 2000f, and chapter 4.) The accusative clitic, an ambiguous XP/X⁰ element, can then undergo Case-licensing movement by adjoining to Agro.³² It seems plausible to assume that the

³¹Cedric Boeckx (personal communication) observes that a similar kind of a PF constraint might be developing for the reflexive clitic *se*. Assuming this would account for the fact that *se* normally follows all other pronominal clitics. Recall that, as noted in fn. 59, chapter 2, *je* is often (in fact, preferably) dropped in the presence of *se* (this does not hold for other auxiliary forms), which is not surprising if they are both required to follow other clitics within the clitic cluster.

- (i) a. On *se* bojao Petra.
 he self afraid Petar.gen
 ‘He was afraid of Petar.’
 b. *Mi *se* bojali Petra.
 we are afraid Petar.gen
 c. cf. Mi *smo se* bojali Petra.
 we are self afraid Petar.gen

³²Notice that the clitic itself would be undergoing a combination of phrasal and head movement by virtue of being both a phrase and a head. It could therefore escape the potential locality effects of intervening heads by virtue of being a phrase and still manage to adjoin to a head by virtue of being a head. Notice also that I assume that overt V-movement to Agro does not have to derivationally precede object shift-type operations to avoid the potential minimality effect of the subject in SpecVP, here a *pro*, as argued in Bobaljik (1995) and Takahashi (1994).

participle should also move to Agro, given that the participle is plausibly the Accusative Case-checker. Since in some languages with object agreement, for example Basque, the auxiliary shows object agreement I assume that the auxiliary also needs to move to Agro. Given that the participle in SC always overtly moves to the auxiliary (see Bošković 1997a, and section 2.2.1.3 and fn. 34 below), the participle could then first left-adjoin to the auxiliary and the participle-auxiliary complex would then move to Agro. (The participle-auxiliary complex could actually be formed in Agr, a possibility noted in Bošković 1997a, in which case the participle and the auxiliary would move to Agro separately. This would not lead to any locality violations in Bošković's 1997a system, which allows heads to move across traces/copies of other heads due to the mechanism of equidistance.) (57) would then be derived as shown in (58). (All the head movements can involve left-adjunction. Notice that there is no need to restrict in principle the order of movement to Agro. (58) gives one possible order.)

(58) $[_{AGRO_P} \text{Volila } je \text{ ga } [_{VP(AUXP)} (\text{volila}) je [_{VP} \text{volila-ga}]]]$

An alternative that would not require pronominal movement to Agro instead of SpecAgroP would be to posit a participial affix head (PartP) above AgroP along the lines of Bobaljik (1995), to which the participle+auxiliary+Agro complex would move. (The complex could actually be formed in the Part head with the participle and the Agro+*je* complex moving to Part separately. As discussed below, the auxiliary would actually continue moving up by itself, which I ignore here.) The participle can then be pronounced in this position, the clitic in SpecAgroP and the auxiliary in Agro.

(59) $[_{PartP} \text{Volila } je [_{AGRO_P} \text{ga } [_{AGRO'} (\text{volila}) je [_{VP(AUXP)} (\text{volila}) je [_{VP} \text{volila-ga}]]]]]$

A question arises now what the source of the PF requirement on *je* proposed above is. Recall that, as noted in section 2.2.1.3 and discussed in Browne (1975), Schütze (1994), and Tomić (1996a) (see also section 3.4), *je* is in the process of losing its cliticness. (See also fn. 21, chapter 2. However, *je* has not completely ceased to be a clitic, so it still cannot occur sentence initially. In other words, it is still subject to the requirements in (152) from chapter 2.) It seems plausible that this should lead to placing *je* at the very edge of the clitic cluster, given that non-clitic material that does not form a separate I-phrase (and *je* clearly cannot form an I-phrase on its own) cannot intervene between clitics in a clitic cluster in SC, as discussed in chapter 2. We would then expect a development of a low level constraint that would force *je* to be located either in the initial or the final position of the clitic cluster. We can assume that the final position is chosen arbitrarily. However, we might be able to do better than that. If, following a suggestion by Klaus Abels (personal communication), we assume that as a result of being in the process of losing its

cliticness, *je* does not allow cliticization across it but is not strong enough to serve as a clitic host itself, we would be forced to pronounce *je* following all other clitics.

There is another way to force *je* to be located in the cluster final, rather than the cluster initial position. The only way to place *je* at the edge of a clitic cluster is to pronounce one of the members of the chain created by the movement of *je* at the edge of the cluster. This can be easily accomplished by pronouncing the tail of the chain, since the tail is located lower than other clitics. The desired result, however, cannot be achieved by pronouncing the head of the chain created by the movement of *je* since the head of the chain is located lower than the question clitic *li*.³³ We thus have an explanation for the PF requirement on *je* proposed above. The requirement has developed as a consequence of *je* losing its cliticness.

³³Other auxiliary clitics never precede *li*, which could be interpreted as indicating that auxiliary clitics never move to *li* (i.e. +wh C). *Je* is assumed to be able to precede *li* because of constructions such as (i):

- (i) *Je li on istukao Petra?*
 Q he beaten Petar
 ‘Did he beat Petar?’

I believe that *je li* in (i) is better analyzed as a non-clitic counterpart of the clitic *li*. (*Dali* is another non-clitic counterpart of *li* with a wider distribution. For arguments that *je* in (i) is not the auxiliary clitic *je*, see also Radanović-Kocić 1988:45-49. Browne 1975 and Tomić 1996a adopt this position as well.) Notice in this respect that all auxiliary clitics (except *je*) have a strong form with *je* attached to the beginning of the weak form. The fact that the auxiliary clitic *je* otherwise can never occur sentence initially also suggests that *je* in (i) is not the auxiliary clitic *je*. Notice also the acceptability of (ii), with two *je*-s.

- (ii) *Je li je on istukao Petra?*
 Q is he beaten Petar
 ‘Did he beat Petar?’

The second *je*, which patterns with other auxiliary clitics in that it immediately follows *li*, is clearly an auxiliary clitic, which means that the first *je* must be something else. (Notice that the pronounce-a-lower-copy analysis would not work here since there is no reason to pronounce *je* twice.) I assume that the auxiliary clitic *je* is dropped in (i). (There are other constructions in which *je* is dropped. See, for example, fn. 31.)

Notice also that *je li* can occur in questions with finite verbs. In fact, it can do so even when the verb is not inflected for 3.p.sg.

- (iii) *Je li voli/vole Mariju?*
 Q loves/love.3p.pl Marija.acc
 ‘Does he/do they love Marija?’

This strongly suggests that *je* in *jeli* is not the auxiliary clitic *je*, which always takes a participial complement.

It should be pointed out, however, that *je* in *jeli* only marginally co-occurs with other auxiliary clitics, as illustrated by (iv). We might be dealing here with some kind of a selectional restriction.

- (iv) ?**Je li su oni istukli Petra?*
 Q are they beaten Petar
 ‘Did they beat Petar?’

3.3. OTHER CONSEQUENCES OF THE PRONOUNCE-A-COPY ANALYSIS FOR SERBO-CROATIAN CLITICS

3.3.1 Some optional movements become obligatory

Franks's claim that lower copies can be pronounced to avoid a PF violation has a desirable side effect in that it turns several movements I argued in Bošković (1995, 1997a) take place optionally into obligatory movements. This is a desirable result conceptually, particularly in an economy-driven framework like Minimalism, which has no natural place for optional movement. Consider first auxiliary preposing. (I ignore here the intermediate landing sites of auxiliary preposing discussed above, which do not affect the point made here.)

As noted in Bošković (1995, 1997a) and section 2.2.2.2.1, SC auxiliaries can occur above sentential adverbs. They can also occur below sentential adverbs. In particular, they occur below sentential adverbs in constructions in which they are preceded by a participle. This is indicated by the loss of the sentential adverb reading of *pravilno* in (60).

- (60) a. Jovan *je* *pravilno* odgovorio Mileni.
 Jovan is correctly answered Milena.dat
 'Jovan did the right thing in answering Milena.'
 'Jovan gave Milena a correct answer.'
- b. *Odgovorio je* *pravilno* Mileni.
 'He gave Milena a correct answer.'
 '*He did the right thing in answering Milena.'

In Bošković (1995, 1997a) I interpreted the fact that on the surface SC auxiliaries can appear either above or below sentential adverbs as indicating that they are base-generated below sentential adverbs and optionally move to a head position above sentential adverbs, presumably Agrs (see section 2.2.2.2.1). In (60a) the movement takes place. In (60b), on the other hand, it does not.³⁴

³⁴I argued that (60) involves participle adjunction to the auxiliary. The adjunction is obligatory. However, when the auxiliary undergoes movement to a higher head position it is forced to excorporate from the participle+auxiliary complex by a principle of economy of derivation, namely, the requirement to carry as little material as possible under movement. Since movement to the higher position is motivated by feature-checking of the auxiliary but not the participle, there is no need for the participle to move together with the auxiliary. Principles of economy then prevent it from moving together with the auxiliary, forcing excorporation. As discussed in Bošković

However, the claim that a lower copy of a chain can be pronounced to avoid a PF violation makes possible a new way of analyzing these facts. Suppose that auxiliary movement is actually obligatory in SC. Given that, as argued in Bošković (1995, 1997a), SC participles obligatorily adjoin to the auxiliary (and given auxiliary excorporation, see fn. 34), auxiliary+participle constructions would then always have the following abstract structure:

(61) aux-clitic participle aux-clitic

If there is phonologically realized material in front of the auxiliary that can serve as a host for the auxiliary we can and must pronounce the head of the chain created by the movement of the auxiliary. However, if there is no phonologically realized material in front of the auxiliary, pronouncing the head of the chain would lead to a PF violation since the auxiliary clitic would remain stranded in sentence-initial position without being able to encliticize. This is precisely the kind of situation where we are allowed to pronounce a lower copy. Pronouncing a lower copy of the auxiliary movement chain, which follows the participle, makes it possible to avoid the PF violation. Under this analysis, auxiliary movement can be considered to be obligatory in SC. In constructions where the auxiliary clitic appears to occur very low in the tree, the tail of the chain is pronounced to avoid a PF violation. Where the auxiliary appears to occur high, the head of the chain is pronounced. Given this, (60a), where the auxiliary occurs above a sentential adverb, involves pronunciation of the head of the chain. This is expected, since the auxiliary clitic is preceded by phonologically realized material that can serve as its host. In (60b), on the other hand, the tail of the chain is pronounced. This is sanctioned because the pronunciation in the head of the chain would leave the auxiliary stranded in sentence-initial position.³⁵

As pointed out in Franks (1998a), a lower copy of the auxiliary clitic is also pronounced in constructions such as (62), where there is an I-phrase boundary between the subject and the auxiliary, induced by the appositive modifier. (Such constructions were discussed in section 2.2.2.2.9.) As a result, the pronunciation of the highest copy of the auxiliary clitic induces a PF violation, i.e. a violation of the second position requirement. The violation can be avoided by pronouncing a copy of the auxiliary following the participle. (Only the relevant copy is shown.)

(62) Jovan, tvoj prijatelj, # *je* zaboravio *je* ključeve.

(1995, 1997a) and Watanabe (1993), empirical motivation for the economy view of excorporation is very strong. Similar instances of excorporation are found in Dutch and Italian (see fn. 22, chapter 2).

³⁵Notice that the adoption of the pronounce-a-lower-copy analysis invalidates the argument against the clitics-in-C analysis based on the lack of the sentential adverb reading in (60b), discussed in section 2.2.2.2.1. The argument stands only if the standard assumption that chains are always pronounced in the head position is adopted.

Jovan your friend is forgotten is keys.
 ‘Jovan, your friend, forgot the keys.’

In addition to auxiliary movement, several other movements that I tacitly assumed to be optional in Bošković (1995, 1997a) can become obligatory with the adoption of the pronounce-a-copy mechanism. Consider, for example, the following data.

- (63) 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
 ‘Petar claims that they fell asleep.’
- c. Da li *su* oni zaspali?³⁶
 Q are they fallen-asleep
 ‘Did they fall asleep?’
- d. Juče *su* oni zaspali.
 yesterday are they fallen-asleep
 ‘Yesterday they fell asleep.’

The above constructions can be accounted for by assuming either (a) auxiliary movement across a pre-verbal subject is optional or (b) subject movement from the pre-verbal position to the pre-auxiliary position is optional. The pronounce-a-copy mechanism, however, enables us to account for the constructions in (63) without positing any optional movements. The auxiliary can always be higher than the immediately pre-verbal subject position and the subject can always be moving from that position to the pre-auxiliary position. The deletions indicated below then take place.³⁷

³⁶*Dali* is treated either as a non-clitic counterpart of the clitic interrogative complementizer *li* (Browne 1974, 1975, 1993:347), or as the clitic complementizer *li* + a dummy element *da*, inserted to support it (Radanović-Kocić 1988:49-52).

³⁷More than two copies of the subject are probably created as a result of subject movement. In this respect, see Sportiche (1988), where it is shown that a subject can land in a number of intermediate positions when moving from its base-generated SpecVP position to SpecAgrsP. I leave open where exactly the pronounced copy is located. Locating the copy high in the tree has to be an option if, as Sandra Stjepanović (personal communication) observes, the adverb in (i) can have the sentential, subject-oriented adverb reading. (This seems to be the case, though the data is not completely clear.)

(i) Petar tvrdi da *su* oni pravilno odgovorili Mariji.
 Petar claims that are they correctly answered Marija
 ‘Petar claims that they correctly answered Milena.’

- (64) a. Oni *su* **oni** zaspali.
 b. Petar tvrdi da **oni** *su* oni zaspali.
 c. Da li **oni** *su* oni zaspali?
 d. Juče **oni** *su* oni zaspali.

Some of the deletions affect the head of the chain created by the movement of the subject. They are sanctioned in these cases because they are necessary to satisfy a PF requirement, namely the second position requirement, which is a PF requirement under the current analysis. (Pronouncing the head of the chain created by subject movement would violate the second position requirement on the auxiliary clitic in (64b-d).)³⁸

The following constructions are another candidate for the pronunciation of a lower copy analysis.

- (65) a. *Voli ga.*
 loves him
 ‘She/he loves him.’
 b. *Ona ga voli.*
 she him loves
 ‘She loves him.’

Under the multiple-specifiers analysis, the embedded subject in (i) (or, more precisely, the copy that is pronounced) could be located in SpecTP, with the sentential adverb being located in inner SpecTP. (Alternatively, we could assume that sentential adverbs can adjoin to the complement of T. When nothing crucially hinges on the precise position of sentential adverbs, I will continue to assume, as I did in Bošković (1995) and chapter 2, that at least as one option, sentential adverbs adjoin to TP.)

Notice also that the subject can be pronounced following the participle in (64b-d). (Such constructions are better with non-pronominal subjects.) This is not surprising since as a result of participle movement, at least the base-generated position of the subject is located below the participle. However, we might also be dealing here with the familiar subject inversion from the Romance pro-drop languages, for which it is not completely clear how it should be analyzed.

³⁸One might argue that allowing optional movement, which raises a serious problem for an economy-driven framework such as Minimalism, in SC might be necessary to account for the extreme freedom of word order in the language. Even if some optionality of movement has to be admitted in SC, decreasing the amount of optional movement is still desirable. However, a tempting possibility suggests itself that the unusual freedom of word order in SC might be at least to some extent a result of an unusual freedom in the possibility of deletion of heads of non-trivial chains. This might be a way to handle traditional scrambling operations, or at least some of them. Under this analysis, scrambling would essentially be a PF phenomenon though no actual movement would be taking place in PF. A PF property/properties would make scrambling possible by sanctioning deletion of heads of non-trivial chains. (For example, an OSV order could arise from an SOSV structure with the higher S deleted in PF (the object could be in the object shift position).) This intriguing possibility cannot be pursued in any detail here since it would take us too far afield. See, however, Stjepanović (1999a) for a very interesting implementation of this analysis.

(65a-b) could be accounted for by assuming that the clitic can be located in Agro (recall that both Agro and SpecAgroP are options for the clitic, which is an ambiguous XP/X⁰ element) and that the main verb optionally moves and left-adjoins to the clitic in Agro. (As demonstrated in Stjepanović 1998d and discussed in chapter 2, main verbs in SC can undergo short verb movement. They can move across VP adverbs, but not across sentential adverbs, which can be interpreted as indicating that they can move to Agro.) The optional verb movement can be turned into obligatory verb movement under the pronounce-a-copy analysis. The verb could be always moving to Agro. In (65b) we would be pronouncing the tail of this movement to satisfy the second position requirement on the clitic. In (65a) the head of the movement would be pronounced. Alternatively, we could assume that the pronominal clitic is located in Agro in (65a) and in SpecAgroP in (65b). There is another alternative: suppose that the clitic always moves higher than the main verb in constructions under consideration (say, to SpecAgroP, with the verb remaining in Agro). In (65a), we would then be pronouncing a lower copy of the clitic, located within VP, in order not to end up with a clitic stranded in sentence-initial position in PF. In (65b) there is no need to do that since due to the presence of a sentence-initial subject, the pronunciation of the higher copy of the clitic, located within the AgroP projection, does not result in a PF violation. (For much relevant discussion, see the analysis of Bulgarian and Macedonian clitics in chapter 4.)

Armed with the mechanism of the pronunciation of lower copies let us now re-consider the delaying effect of fronted heavy constituents in embedded clauses. (66a) illustrates the delaying effect of fronted heavy constituents, discussed in section 2.2.2.2.9. As shown in (66b), the delaying effect of the fronted heavy constituent in (66a) is not obligatory. The clitic is still allowed to occur in its "usual" position following the complementizer *da*.³⁹

³⁹The fact that both (66a) and (66b) are acceptable is problematic for Franks's (1998a) analysis, discussed briefly in chapter 2. The analysis places a clitic in the highest structural position within its clause and always pronounces the highest member of the chain created by overt clitic movement if the PF realization of this member does not induce a PF violation. Under Franks's analysis, the clitic in the *da* clause moves to C. (66b) indicates that nothing goes wrong if the clitic is pronounced in the highest position of the chain created by its movement. Given that (66b) is acceptable, the grammaticality of (66a), where a lower member of the chain created by clitic movement is pronounced, raises a serious problem for Franks's analysis. The fact that (66b) is grammatical indicates that no PF violation occurs if the highest member of the clitic chain is pronounced. This should then block the pronunciation of a lower member of the clitic chain, which in turn should rule out (66a). Franks (1998a) acknowledges this and attempts to deal with this potentially very serious problem for his theory. He proposes an optimality-theoretic account of the data under consideration. He suggests that there are two relevant constraints on clitic placement. One requires that the highest member of the clitic chain be pronounced and the other requires that clitics do not immediately precede an I-phrase boundary. Franks furthermore stipulates that the two constraints are not ranked with respect to each other, as a result of which (66a) and (66b) have the same status - each violates one constraint, which are "equally ranked". Apart from being very stipulative and not very different from a mere formal restatement of the facts, one constraint that is crucially needed in this account, namely the constraint that prevents clitics from occurring immediately before an I-phrase boundary, is problematic empirically. Recall, for example, that, as discussed in chapter 2, SC clitics can be followed by an ellipsis site. A number of constructions of this type discussed in chapter 2 involve a clitic immediately preceding an I-phrase boundary. Certain constructions discussed below (see, for

- (66) a. *da prije nekoliko dana oni su zakasnili tri sata.*
 that before a few days they are been-late three hours
 ‘that few days ago they were late three hours.’
 b. *da su prije nekoliko dana oni zakasnili tri sata.*

At first sight, it appears that to account for constructions in (66), we need to assume that SC clitics optionally move to C, or a head within the split C, as in Rizzi (1997), in embedded clauses. (Assuming Kayne’s 1994 ban on rightward movement even in the case of head movement would actually require movement to a lower head within the split C and not to the highest head, which I assume to be the complementizer *da*.) (66b) would instantiate the option where the clitic moves to a position within the split C. In (66a), on the other hand, the clitic would remain in a lower position.

I will show now that once again, the pronunciation-of-a-lower copy mechanism enables us to eliminate an instance of optional movement. Notice first that in root clauses, the following options are available for the placement of the adverb *prije nekoliko dana*, which I assume is base-generated in the positions in question; it is not undergoing movement. (I am focusing here only on options that are relevant to the analysis proposed below.)

- (67) a. *Prije nekoliko dana oni su zakasnili tri sata.*
 before a few days they are been-late three hours
 ‘A few days ago they were late three hours.’
 b. *Oni su prije nekoliko dana zakasnili tri sata.*

Let us assume that the same options are available in embedded clauses. Furthermore, following the conclusions reached above, let us assume that the subject starts below the auxiliary clitic and obligatorily moves above the auxiliary clitic.

- (68) a. *da prije nekoliko dana oni su oni zakasnili tri sata.*
 b. *da oni su prije nekoliko dana oni zakasnili tri sata.*

The initial adverbial in (68a) is followed by an I-phrase boundary. As a result, nothing goes wrong in PF with respect to the second position requirement on the auxiliary clitic if we pronounce the head of the chain formed by subject movement. (The clitic merges with the subject, which is right adjacent to an I-phrase boundary.) Consequently, the head of the chain must be pronounced. We

example (73)) provide an even more serious problem for Franks’s analysis. We will see below that there is conclusive evidence that clitics in the constructions under consideration are located lower than C in the syntax. This makes Franks’s analysis, which crucially depends on locating clitics in C in embedded clauses, untenable.

then derive (66a).

(69) da prije nekoliko dana# oni *su* ~~oni~~ zakasnili tri sata.

Turning now to (68b), notice that the pronunciation of the head of the subject chain would result in a PF violation. More precisely, the second position requirement on the auxiliary clitic would be violated. (The clitic would merge with the subject, but the subject is not right adjacent to an I-phrase boundary.) The PF requirement can be satisfied if the subject is pronounced in a lower position. The clitic then merges with the complementizer, which is adjacent to an I-phrase boundary. (The boundary corresponds to the left edge of the embedded clause.) This is, then, precisely the situation in which the head of a non-trivial chain can be deleted instead of the tail in PF. The derivation in question yields (66b).

(70) da ~~oni~~ *su* prije nekoliko dana oni zakasnili tri sata.

(66a-b) are thus derived without any optional movements. We can maintain the assumption that SC auxiliary clitics are always located in Agrs overtly.

There is also evidence that this analysis is empirically superior to the optional-movement-to-C analysis. The main difference between the analyses is that on the optional movement analysis, the clitic moves to C in (66b), whereas on the obligatory movement analysis, the clitic remains in a lower position, namely, it remains in Agrs. Notice first that in this type of construction the auxiliary clitic can cooccur with a pronominal clitic.

- (71) a. da prije nekoliko dana oni *su mu* odgovorili.
 that before a few days they are him answered
 ‘that a few days ago, they answered him.’
 b. da *su mu* prije nekoliko dana oni odgovorili.

Since the introduction of a pronominal clitic does not change anything with respect to (71a) I will ignore this construction and focus on (71b). On the optional movement analysis the clitic cluster in (71b) moves to C. Under the obligatory movement analysis the clitics remain in a lower position, the auxiliary clitic in Agrs and the pronominal clitic within AgroP. The subject, which undergoes syntactic movement to a pre-aux position, is pronounced in a lower position so that the second position requirement on clitics can be satisfied. Under the optional movement analysis, on the other hand, the subject can be located in SpecIP (more precisely, SpecAgrsP). The relevant structures

are given in (72). (Irrelevant copies are ignored.)⁴⁰

- (72) a. [_{CP} [_C da *su mu*] prije nekoliko dana [_{AgrSP} oni odgovorili]]
 b. da [_{AgrSP} ~~oni~~ *su*] [_{AgrOP} *mu* prije nekoliko dana oni odgovorili]]

To tease the two analyses apart I use the adverb *pravilno* ‘correctly’, which is ambiguous between the subject-oriented adverb reading and the manner reading. Significantly, the adverb can only have the manner reading in (73). The subject-oriented reading, on which the adverb is adjoined to TP (see chapter 2), is unavailable.

- (73) da *su mu* prije nekoliko dana oni *pravilno* odgovorili.
 that are him before a few days they correctly answered
 ‘that a few days ago, they gave him a correct answer.’
 ‘*that a few days ago, they did the right thing in answering him.’

⁴⁰With *je* ‘is’, the pronominal clitic precedes the auxiliary clitic.

- (i) da *ga je* prije nekoliko dana Petar upozorio.
 that him is before a few days Petar warned
 ‘that a few days ago, Petar warned him.’

The analysis of the *je* last effect from section 3.2 can be readily extended to (i) under the obligatory movement analysis regardless of which of the two analyses of auxiliary+participle constructions involving pronominal clitics suggested above is adopted. As a reminder, I give here more detailed abstract structures of participle-auxiliary constructions involving a pronominal direct object clitic with all copies of the auxiliary, the participle, and the pronominal clitic indicated. (For discussion of these structures, see the discussion concerning examples (57)–(59). I assume that there can be a subject copy in each available A-Spec, as a result of successive cyclic movement of the subject from SpecVP to SpecAgrSP (see fn. 37).) It is easy to verify that both of these structures can yield (i) and (72b) given that the dispreferred deletion of the head of a chain can take place if necessary to satisfy a PF requirement.

- (ii) da aux. [_{AGRO} partic. aux. pron.cl. [_{VP(AUXP)} (partic.) aux. [_{VP} partic. pron.cl.]]]
 (iii) da aux. [_{PartP} partic. aux. [_{AGROp} pron.cl. (partic.) aux. [_{VP(AUXP)} (partic.) aux. [_{VP} partic. pron.cl.]]]]

Under the movement-to-C analysis, we need to assume that clitics move successive cyclically to C and that there is a position to which clitics move on their way to C that is immediately below C. Given the position, (i) would have the structure in (iv) (only relevant copies are shown). Deletion of *je* in the head of the chain would then help satisfy the requirement that *je* follows other clitics within the clitic cluster.

- (iv) da *je ga je ga* prije nekoliko dana Petar upozorio.

Another option, which could be worked out at the cost of several additional assumptions, is that pronominal clitics undergo topicalization to SpecTopP (within the split C domain), with the auxiliary clitic moving to a higher head position passing through Top⁰. *Je* would then be pronounced in Top⁰ in (i). At any rate, it appears to be a bit easier to handle the *je* last effect under the obligatory movement analysis, though it is not impossible to handle it under the optional-movement-to-C analysis.

This is unexpected under the optional-movement-to-C analysis. However, this is exactly what is expected under the obligatory movement analysis. Under the former analysis, the clitics are high enough in the tree to allow the adverb to follow them even on the "high", subject-oriented adverb reading. This is, however, not the case under the obligatory-movement analysis. The position in which the pronominal clitic is located is too low in the tree to be followed by a subject-oriented adverb. I conclude therefore that even in the constructions under consideration, which at first sight seemed to be very plausible candidates for at least optional movement of clitics to C, the clitics do not move to C. They remain in lower positions. In light of the discussion so far, I conclude that SC clitics do not move to C in declarative clauses.⁴¹ Returning to our main point in this section, notice that once again, the pronounce-a-lower-copy mechanism has enabled us to eliminate a potential instance of optional movement.

The analysis of (66) presented here can be readily extended to the following paradigm involving an auxiliary taking an infinitival complement and a parenthetical as a delayer of clitic placement.

- (74) a. 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.'
 b. Znači da će, kao što rekoh, oni sutra doći.

Assume the options for parenthetical placement indicated below and the usual subject movement:

- (75) a. Znači da kao što rekoh, [_{IP} oni će oni sutra doći]
 b. Znači da [_{IP} oni će, kao što rekoh, oni sutra doći]

The parenthetical in (75a) is followed by an I-phrase boundary, as discussed in chapter 2. As a

⁴¹The above discussion does not necessarily tell us anything about questions, headed by +wh-C, which are discussed briefly in chapter 2 and the following section.

Notice that the conclusion concerning declarative clauses is actually somewhat tentative. The unavailability of the sentential adverb reading in (73) provides evidence that the whole clitic cluster does not move to C. However, it does not rule out the possibility that the auxiliary clitic alone can optionally move to C. Notice also that (i), where no pronominal clitic is present, cannot tell us anything conclusive in this respect, given the discussion in fn. 37. (The grammaticality status of (i) on the sentential adverb reading is not completely clear. However, the reading does seem to be more accessible in (i) than in (73).)

(i) da *su* prije nekoliko dana oni pravilno odgovorili Mariji.
 that are before a few days they correctly answered Marija

result, we can satisfy the second position requirement on the auxiliary clitic by doing the preferred pronunciation of the subject chain in the head of the chain. We thus derive (74a).

(76) Znači da, kao što rekoh, [_{IP} oni će oni sutra doći]

Turning now to (75b), the pronunciation of the head of the subject chain leads to a violation of the second position requirement on the auxiliary clitic. However, the construction can be saved in PF by pronouncing the tail of the subject chain. This derivation gives us (74b).⁴²

(77) Znači da [_{IP} oni će, kao što rekoh, oni sutra doći]

3.3.2 Strong auxiliaries in the pronunciation-of-a-lower-copy analysis

Another desirable side-effect of the pronunciation-of-a-lower-copy analysis of auxiliary movement is that it provides us with a straightforward account of the ungrammaticality of (78a), involving a strong form of the auxiliary, which contrasts with (78b), involving a clitic auxiliary.

- (78) a. *Poljubio nisam/jesam nju.
 kissed not+am/AM her
 'I did not/did kiss her.'
 b. Poljubio *sam* nju.
 kissed am her

⁴²Consider also the following constructions:

- (i) a. ?*Znači da oni, kao što rekoh, sutra će doći.
 b. Znači da, kao što rekoh, sutra će doći.
 c. *Znači da oni će, kao što rekoh, sutra doći.
 d. Znači da će oni, kao što rekoh, sutra doći.

I assume that the ungrammaticality of (ia) is probably due to the clitic being pronounced in a too low position. The assumption is that there is no copy of the auxiliary following *both* the parenthetical when it is lower than IP *and* the adverb following this parenthetical. The acceptability of (ib) should then be interpreted as indicating that when an overt subject does not precede the sequence parenthetical+adverb *sutra*, the adverb can be located in a structurally higher position. This is not surprising. In contrast to the parenthetical in (ia), the parenthetical in (ib) could be located in a pre-IP position. The adverb following it could also be located in a pre-IP position, in which case we would be pronouncing the auxiliary in the head of its chain. Turning to (id), I assume that the auxiliary is pronounced in the head position of its chain. As for the subject chain, I assume that the copy immediately below the head of its chain is pronounced. The parenthetical is located below this copy. Finally, (ic) is ruled out due to a violation of the second position requirement on *će*.

‘I kissed her.’

Recall that the auxiliary obligatorily moves to a head position above the participle. In (78b), the auxiliary is pronounced in the tail of the chain created by the movement to avoid a PF violation. In (78a), on the other hand, there is no need for pronunciation in the tail of the chain since no PF violation occurs if the head of the chain created by the movement of the auxiliary is pronounced, the auxiliary not being a clitic.

- (79) a. Nisam/jesam poljubio ~~nisam/jesam~~ nju.
 b. ~~Sam~~ poljubio ~~sam~~ nju.

The contrast in (78) thus receives a straightforward account.⁴³

Notice also that with respect to sentential adverbs, strong auxiliary forms pattern with main verbs (see section 2.2.2.2.1) in that although they move across VP adverbs, they cannot move across sentential adverbs. This indicates that strong auxiliaries cannot move to the highest head in the split I, namely Agrs.

- (80) a. *Nisu/jesu vjerovatno poljubili Mariju.
 not+are/ARE probably kissed Marija
 ‘They probably did not/did kiss Marija.’
 b. Vjerovatno nisu poljubili Mariju.
 c. Niste/jeste pravilno odgovorili Mariji.
 not+are/ARE correctly answered Marija

⁴³For an alternative account, see Bošković (1995, 1997a). There, I suggested that non-clitic auxiliaries differ from clitic auxiliaries, which I assumed only optionally move overtly, in that they must undergo overt head movement to a higher position, namely Laka’s (1990) Σ . (As discussed in Laka 1990, Σ is instantiated as either negation or emphatic affirmation.) (78a) then involves illicit pied-piping under head movement. (Recall that overt head movement of the auxiliary cannot pied-pipe the participle due to economy of derivation.)

Interestingly, (i) is grammatical.

- (i) Čekali Marijinu prijateljicu niste/jeste
 waited Marija's friend not+are/ARE
 ‘Waiting for Marija's friend you were not.’
 ‘Waiting for Marija’s friend you WERE.’

In Bošković (1995, 1997a), I argued that in (i), *čekali* first adjoins to the auxiliary, which then excorporates adjoining to Σ . This is followed by remnant AuxP preposing. (The construction is good without AuxP preposing as well. Thus, *Niste čekali Marijinu prijateljicu* is also well-formed.)

- (ii) [_{AuxP} t_i+čekali]_j [_{VP} t_j Marijinu prijateljicu]_k [_{ΣP} ni+ste_i t_k]

‘You did not/did give Marija a correct answer.’

*‘You did not/did do the right thing in answering Marija.’

Following Bošković (1995, 1997a) (see also fn. 43), I assume that strong auxiliaries are moving to Σ , which is very plausible given the meaning of strong forms: strong auxiliaries are either negative or emphatic. (In this respect they are different from weak forms, which do not have negative and emphatic forms.) I assume that ΣP is below sentential adverbs, possibly for semantic reasons. Sentential adverbs may need to have scope over the negative/emphatic auxiliary. This also seems to be true of English, where, in contrast to other auxiliaries and modals, negative auxiliaries and modals and emphatic *do* cannot precede sentential adverbs.

- (81) a. He has probably kissed Mary.
 b. He probably has kissed Mary.
 c. He probably did/did not kiss Mary.
 d. *He did/did not probably kiss Mary.
 e. He probably hasn’t kissed Mary.
 f. *He hasn’t probably kissed Mary.

3.3.3 Clitics in multiple questions

In this section I will show how the pronunciation-of-a-lower-copy analysis enables us to solve a potential problem for the current account of the second position effect raised by multiple wh-fronting constructions (for discussion of clitic placement in multiple wh-fronting constructions, see also Penn in press).

As noted in section 3.1, in SC all wh-phrases are obligatorily fronted.

- (82) a. Ko šta kupuje?
 who what buys
 ‘Who is buying what?’
 b. *Ko kupuje šta?

The same holds for Bulgarian.

- (83) a. Koj kakvo kupuva?
 who what buys
 ‘Who is buying what?’

b. *Koj kupuva kakvo?

Since all *wh*-phrases in SC and Bulgarian must be fronted the driving force for the fronting cannot be the same as in English, namely the strong +*wh* feature of C. If it were, it would suffice to front only one *wh*-phrase in SC and Bulgarian, as in English, which would leave us without an account of the ungrammatical constructions in (82) and (83). As discussed in section 3.1, Stjepanović (1995) argues that focus is responsible for multiple *wh*-fronting in SC. More precisely, SC *wh*-phrases move to check a focus feature (see the discussion of (5) and fn. 4). The analysis is extended to Bulgarian in Bošković (1998b, c) (see also Izvorski 1993).

Rudin (1988) argues that in Bulgarian all fronted *wh*-phrases are located within the CP projection, whereas in SC only the first fronted *wh*-phrase is located in SpecCP, other fronted *wh*-phrases being located below that position.⁴⁴ Rudin's analysis of SC provides a straightforward account of the following constructions if we assume that, in contrast to the declarative C, the +*wh*-C attracts the clitic auxiliary.

- (84) a. Ko *je* koga volio?
 who is whom loved
 'Who loved whom?'
 b. *Ko koga *je* volio?

Under this analysis, both *wh*-phrases in (84b) have to be higher than C. The construction is then ruled out because SC is not like Bulgarian: SC does not allow more than one *wh*-phrase in interrogative SpecCP (see Rudin 1988 for evidence for this difference between SC and Bulgarian). (84a) is derived without any problems. The highest *wh*-phrase is in SpecCP, the auxiliary is in C, and the lower *wh*-phrase is adjoined to IP.

However, in Bošković (1997b, 1998b, 1999, 2000d) I argue that the difference between Bulgarian and SC is even deeper than what Rudin suggests. In particular, I argue that, in contrast to Bulgarian, in SC no *wh*-phrase has to move to SpecCP overtly in constructions such as (82a). I give several arguments to this effect. First, I show that this analysis enables us to account for a difference in the ordering of fronted *wh*-phrases in Bulgarian and SC. Rudin observes that fronted *wh*-phrases are subject to strict ordering constraints in Bulgarian, but not in SC.

- (85) a. Koj kogo e vidjal? (Bulgarian)
 who whom is seen

⁴⁴If this is correct and focus indeed serves as the driving force of multiple *wh*-fronting, it follows that the focus licenser for *wh*-phrases is slightly different in the two languages (see Bošković 1997c).

- ‘Who saw whom?’
 b. *Kogo koj e vidjal?
 c. Koj kak udari Ivan?
 who how hit Ivan
 ‘Who hit Ivan how?’
 d. *Kak koj udari Ivan?
 (86) a. Ko je koga vidio? (SC)
 who is whom seen
 ‘Who saw whom?’
 b. Koga je ko vidio?
 c. Ko kako udara Ivana?
 who how hits Ivan
 ‘Who is hitting Ivan how?’
 d. Kako ko udara Ivana?

The correct descriptive generalization concerning Bulgarian is that the *wh*-phrase that is highest prior to *wh*-movement must be first in the cluster of fronted *wh*-phrases (see Rudin 1988 and Bošković 1997d, 1998c, 1999), which is generally considered to be a Superiority effect (see fn. 7). Being higher than other *wh*-phrases prior to *wh*-movement, *koj* must move first to SpecCP to check the strong +*wh*-feature of C in the most economical way, i.e. through the shortest movement possible.⁴⁵ (The underlying assumption here is that movement to SpecCP obligatorily triggers spec-head agreement with C.) (85b,d) are then ruled out because the strong +*wh*-feature of C, checked by *kogo* and *kak* respectively, is not checked in the most economical way.

Turning to SC, the fact that all the constructions in (86) are grammatical could be interpreted as indicating that *wh*-movement in SC is exempt from the Superiority Condition. This is, however, clearly an undesirable result. However, I observe in Bošković (1998c, 1999) that we are not led to that conclusion if *wh*-movement does not have to take place overtly in SC. Since *wh*-movement then does not have to take place in (86), it trivially satisfies Superiority.⁴⁶

⁴⁵The second *wh*-phrase moves for reasons independent of the checking of the strong +*wh*-feature of C. In Bošković (1998b, c) I suggest that focus is the driving force of the movement. Recall that the second *wh*-phrase is generally assumed to move either to a lower SpecCP or right-adjoin to SpecCP.

⁴⁶Recall that SC *wh*-phrases in (86) are fronted for focusing reasons. For a principled economy explanation why, in contrast to *wh*-movement, focus movement of *wh*-phrases appears to be insensitive to Superiority, see Bošković (1998c, 1999), where the different behavior of focus and *wh*-movement with respect to Superiority is shown to follow from principles of economy of derivation as a result of formally different driving forces of the movements in question. I also show that, in contrast to *wh*-movement, focus movement of *wh*-phrases is also insensitive to Superiority in Bulgarian. In Bošković (1997b, 2000d) I show that in certain contexts, SC *wh*-phrases do undergo *wh*-movement. These contexts also exhibit Superiority effects.

In Bošković (1999) I give another argument that *wh*-movement does not have to take place overtly in SC based on the interpretation of multiple questions. It is well-known that a pair-list answer is obligatory in English questions such as (87).⁴⁷

(87) Who bought what?

(87) cannot be felicitously asked in the following situation: John is in a store and in the distance sees somebody buying a piece of clothing, but does not see who it is and does not see exactly what the person is buying. He goes to the sales clerk and asks (87).

Interestingly, questions such as (87) are not crosslinguistically banned from having single-pair answers. Thus, the Japanese, Chinese, and Hindi counterparts of (87) can have either single-pair or pair-list answers.⁴⁸ That is, in addition to situations appropriate for pair-list answers, (88) can also be used in the situation described above. (I illustrate the relevant points with respect to Japanese. Chinese and Hindi pattern with Japanese in the relevant respect.)

(88) Dare-ga nani-o katta no?
 who-nom what-acc bought Q
 ‘Who bought what?’

Non-subject questions such as (89) can also have single-pair answers.

(89) John-wa dare-ni nani-o ageta no?
 John-top who-dat what-acc gave Q
 ‘Who did John give what?’

One obvious difference between English and Japanese/Chinese/Hindi is that the former is a language with overt movement of *wh*-phrases to SpecCP, whereas the latter are *wh*-in-situ languages; that is, interrogative SpecCPs are filled in the overt syntax by a *wh*-phrase in English, but not in Japanese, Chinese, and Hindi.⁴⁹ It is possible that the obligatoriness of syntactic

⁴⁷The observation is sometimes attributed to Mark Ryser. However, it appears that it was first made by Wachowicz (1974). For relevant recent discussion, see Barss (1992), Bošković (1998d), Comorovski (1996), and Hornstein (1995), among others. For some exceptions to Wachowicz’s observation, which will not be discussed here, see Ausín (in preparation) and Comorovski (1996).

⁴⁸The Japanese data were brought to my attention by Mamoru Saito (personal communication).

⁴⁹I ignore here the possibility of null operator movement in Japanese questions (see Watanabe 1992) and concentrate on what happens to *wh*-phrases themselves.

movement of a *wh*-phrase to SpecCP for some reason forces the pair-list interpretation on questions such as (87). French confirms this conjecture. (Notice also that German, another obligatory *wh*-movement language, patterns with English in the relevant respect.)

French can employ either the in-situ or the *wh*-movement strategy in questions.⁵⁰ Significantly, single-pair answers are possible in French, but only with in-situ questions. Thus, the in-situ multiple question in (90a) can have a single-pair answer. This answer is degraded with (90b), involving overt *wh*-movement.⁵¹

- (90) a. Il a donné quoi à qui?
 he has given what to whom
 ‘What did he give to whom?’
 b. Qu’a-t-il donné à qui?

The contrast between (90a) and (90b) strongly indicates that the single-pair answer is possible only when no *wh*-phrase moves to SpecCP overtly.⁵²

Turning now to the interpretation of multiple questions in South Slavic, notice that, as expected, Bulgarian, a multiple *wh*-fronting language in which interrogative SpecCPs are obligatorily filled by a *wh*-phrase overtly, patterns with English in that (91) requires a pair-list answer.

- (91) Koj kakvo e kupil?
 who what is bought
 ‘Who bought what?’

⁵⁰I will confine my discussion of French to non-subject questions, where it is clear whether the *wh*-movement or the in-situ option is employed.

⁵¹As discussed in Bošković (1998a, 2000a), French *wh*-in-situ constructions involve LF *wh*-movement. (I show that even argument *wh*-in-situ constructions in French are sensitive to locality restrictions on movement.) If this LF movement affects the whole *wh*-phrase, (90a) and (90b) will have the same structure in LF, which will make it very difficult to account for the fact that they receive different interpretations. In Chomsky’s (1995) Move F system, on the other hand, (90a) and (90b) will have different LFs. The operation Move will affect only the formal features of the higher *wh*-phrase in (90a). In contrast to (90b), its semantic features will remain in their base-generated position in (90a). The fact that (90a) and (90b) receive different interpretations may thus provide an argument for Move F. For recent discussion of French *wh*-in-situ, see also Boeckx (1999b), Bošković and Lasnik (1999), Chang (1997), Cheng and Rooryck (2000), and Pollock, Munaro, and Poletto (1998).

⁵²As discussed in Bošković (1998d), this is a necessary, but not the only prerequisite for the availability of single-pair answers. It is possible therefore that some speakers of languages in which (87) can have a single-pair answer do not allow such an answer for (87). For an explanation why overt movement of a *wh*-phrase to SpecCP has a damaging effect on the availability of single-pair answers, see Bošković (1998d). The explanation is based on Hagstrom’s (1998) theory of the interpretation of questions.

Significantly, SC patterns with languages in which wh-phrases do not have to move to SpecCP overtly in the relevant respect. Thus, SC (92) can have either a pair-list or a single-pair answer.

- (92) Ko je šta kupio?
 who is what bought
 ‘Who bought what?’

This indicates that SC questions are well-formed even when no wh-phrase moves to the interrogative SpecCP overtly. For more evidence to this effect, see Bošković (1997b, c, 1998b) (see also Bošković 2000d for discussion of how several other multiple wh-fronting languages fare with respect to the tests run in this section).

In light of this conclusion, let us reconsider (84). Consider first (84b). Assuming straightforward mapping between syntactic and prosodic constituents (syntactic structure is standardly assumed to be the basic guide for constructing prosodic constituents), the ungrammaticality of the construction can be readily accounted for under the multiple-specifiers analysis of the movement to the "same" position (for such an analysis of SC multiple wh-fronting, see Koizumi 1994). Under this analysis, the fronted wh-phrases would be located in separate specifiers of the focus-licensing head, which is located below C. The auxiliary clitic could either move to this focus-licensing head or remain in a lower position.

- (93) *_{[XP} Ko _{[X} koga _{[X} je volio]]]
 who whom is loved
 ‘Who loved whom?’

Notice that although, in contrast to Rudin’s analysis, the fronted wh-phrases are located in the same projection, as in Rudin’s analysis, they do not form a constituent. As a result, assuming straightforward mapping between syntactic and prosodic constituents in this case, prosodic requirements on the auxiliary clitic cannot be satisfied. The clitic merges with the preceding wh-word satisfying its suffix requirement. However, since the wh-word that the clitic merges with is neither adjacent to an I-phrase boundary nor heads a phonological constituent adjacent to an I-phrase boundary, the requirement that the clitic be right adjacent to an I-phrase boundary cannot be satisfied.

Recall that, as discussed in section 2.2.2.2.9, this type of construction improves with heavier wh-phrases. This is illustrated by the following construction, which is taken from section 2.2.2.2.9.

- (94) ?Koji čovjek, koju je knjigu kupio?

which man which is book bought
 ‘Which man bought which book?’

This is not surprising. In contrast to the initial wh-phrase in (84b), the heavy initial wh-phrase in (94) can be (at least marginally) followed by an I-phrase boundary. This makes the wh-word the clitic merges with in (94) adjacent to an I-phrase boundary, in contrast to what happens in (84b). (Notice that (94) is acceptable only if a pause, a manifestation of the I-phrase boundary, follows the initial wh-phrase.)

What about (84a)? The construction could be readily accounted for if the two wh-phrases could be located in two different projections. Following Stjepanović (1995), in Bošković (1997c) I suggest that there are two focus positions for wh-phrases in SC - one above and one below subject position (SpecAgrsP). Locating the wh-phrases in these two focus positions could readily give us (84a). However, it is not clear that the two-focus-positions derivation is available in all relevant cases, for example (86b), where the second wh-phrase is the subject. As a result, the lower focus position below the subject position might not be available for the second wh-phrase. I actually argue that this is the case in Bošković (1997c). I argue there that the focus licenser in SC is Agr. (AgrsP and AgroP then give us two focus-licensing positions.) Under the analysis presented in that work, the lower wh-phrase in (86b) is located in the lower SpecAgrsP and the higher one in the higher SpecAgrsP (or AgrsP adjoined if the multiple-specifiers analysis is not adopted). If the auxiliary obligatorily moves to Agrs we seem to have a problem: the order wh wh auxiliary-clitic from (86b) seems to be underivable. Not so under the pronunciation-of-a-lower-copy analysis. Pronouncing both the wh-phrases and the auxiliary in the head position of their chains gives us *Koga ko je volio*, which, as discussed above, results in a PF violation: a prosodic requirement on the clitic auxiliary cannot be satisfied. The requirement can be satisfied if one of the wh-phrases is pronounced in a lower position of its chain (see fn. 12, chapter 4 for discussion of how the mechanism of the pronunciation of lower copies works in this type of examples). This is exactly the situation in which the pronunciation of lower copies is sanctioned. I assume therefore that the subject wh-phrase is pronounced in a lower position, for example, SpecTP.⁵³

(95) [_{AgrsP} Koga kɔ je [_{TP} ko vidio]]
 whom who is seen

⁵³Other options probably exist. A lower copy should also be available for non-subject wh-phrases as a result of successive cyclic movement. However, the availability of two focus positions might make the pronunciation of a lower copy unnecessary in multiple questions with non-subject wh-phrases, such as (i):

(i) *Kako je koga istukao?*
 how is whom beaten
 ‘How did he beat whom?’

The pronunciation-of-a-lower-copy analysis thus enables us to account for the acceptability of constructions like (86b).

To summarize the discussion in chapter 3 so far, we have seen how the mechanism of pronunciation of lower copies of non-trivial chains motivated by PF considerations enables PF to affect word order without actual applications of the operation Move in PF. More importantly for our purposes, the mechanism enables us to provide a principled account of a number of otherwise puzzling properties of SC clitics and auxiliaries: it explains the mismatch between phonology and syntax in the behavior of the auxiliary *je* with respect to pronominal clitics (*je* follows pronominal clitics in the phonology, but precedes them in the syntax), explains why participles can precede auxiliary clitics, but not strong forms of auxiliaries, accounts for clitic placement in multiple wh-fronting constructions, and enables us to turn a number of optional movements into obligatory movements. As for the location of SC clitics in the overt syntax, the final picture is the following: both auxiliary and pronominal clitics obligatorily move in the overt syntax. The movement takes place to positions within split I: auxiliary clitics move to the highest head within split I, namely Agrs, and pronominal clitics move to their Case-checking object Agr projections.⁵⁴

Having accounted for the second position effect in SC and determined the position of SC clitics in the syntax, in the next section I turn to cliticization in several other Slavic languages, namely Slovenian, Polish and very briefly Czech. (Bulgarian and Macedonian clitics are discussed in chapter 4.) I will demonstrate that the analysis of SC cliticization developed so far can be readily extended to account for the behavior of clitics in these languages, which can be interpreted as an additional confirmation of the analysis of SC cliticization presented above. I will argue that the syntax of clitics in SC and the languages to be discussed in the following sections is essentially the same. Where these languages differ is in the phonological properties of clitics. These phonological differences sometimes result in very different behavior of clitics with respect to word order in the languages under consideration.

3.4. SLOVENIAN CLITICS

Slovenian clitics resemble SC clitics. They also occur in second position and are able to "break up" constituents. As in the case of SC, the constituent break-ups can be done by independently

⁵⁴It is possible that at least in some cases, pronominal clitics can also undergo scrambling and/or topicalization. In this respect, notice that Franks (1998a) and Franks and King (2000:339) argue that Polish clitics, discussed in section 3.5, can undergo scrambling.

motivated syntactic movements.⁵⁵ ((96d) is taken from Golden and Milojević Sheppard 2000. Slovenian counterparts of SC second position clitics are given in italics.)

- (96) a. Prinesel *sem mu jo*.
 brought am him.dat it.acc
 ‘I brought it to him.’
- b. Janez *mu ga je* dal.
 Janez him.dat it.acc is given
 ‘Janez gave it to him.’
- c. da *se mu je* posmehoval.
 that self him.dat is made-fun
 ‘that he made fun of him.’
- d. Veliko/Koliko/Toliko *ji je* kupil knjig
 many/how many/so many her.dat is bought books
 ‘Many books, he bought her.’
 ‘How many books did he buy her?’
 ‘So many books, he bought her.’

Like SC clitics, Slovenian clitics can also occur below C and do not have to cluster together under the same head node in the syntax. I give here a couple of arguments to this effect based on the tests from chapter 2.⁵⁶

Recall that, as discussed in chapter 2 with respect to SC, in Slavic multiple wh-fronting constructions that appear to violate Superiority no wh-movement takes place overtly. Wh-phrases in such questions are located lower than C, the CP projection being inserted only in LF. It follows then that the clitics in constructions such as (97) must also be lower than C. (For discussion of Slovenian multiple wh-fronting constructions, see Golden 1997.)

⁵⁵Franks (1998a) observes that Slovenian is less permissive than SC with respect to the possibility of clitics breaking up constituents. According to Franks, the same holds for syntactic movement, as expected (see also Franks and King 2000:360). Golden and Milojević Sheppard (2000) also claim that there is a correlation between syntactic movability and the ability to host a clitic in Slovenian.

Notice also that, as in SC, in contrast to other auxiliary clitics, the third person singular auxiliary clitic *je* follows pronominal clitics. (The same actually holds for the future tense auxiliary.) I assume that the exceptional behavior of Slovenian *je* and the future tense auxiliary can be explained in the same way as the exceptional behavior of SC *je*. Another peculiar fact about clitic ordering in Slovenian concerns reflexive clitics, which can precede other pronominal clitics, as noted in fn. 59, chapter 2. See that footnote for an explanation of this state of affairs.

⁵⁶See chapter 2 for references for the tests in question. Notice that some of the tests run with respect to SC in chapter 2 cannot be run in Slovenian due to interfering factors.

- (97) a. *Kaj je kdo prodal?*
 who is what sold
 'Who sold what?'
 b. *Kdo je kaj prodal?*

Slovenian gerunds, which seem to be "smaller" than CPs, as indicated by the fact that they cannot contain fronted *wh*-phrases, can contain clitics. Given that gerunds are "smaller" than CPs, it follows that clitics contained in gerunds are located lower than C. (For another argument of this type that Slovenian clitics can be lower than C, see (112a) below.)

- (98) a. *Pisoč pismo, on je zaspal.*
 writing letter he is fallen asleep
 'Writing a letter, he fell asleep.'
 b. *Pisoč ga, on je zaspal.*
 writing it he is fallen asleep
 c. **Pismo katerega pisoč, on je zaspal.*
 letter which writing he is fallen asleep

As in some dialects of SC, VP fronting can also split a clitic cluster in Slovenian.

- (99) *Dala ga Metki sta Janez in Ivan.*
 given it.acc Metka.dat are Janez and Ivan
 'Give it to Metka, Janez and Ivan did.'

The same holds for clitic climbing, as the following constructions from Franks and King (2000) illustrate. The constructions also show that the dative clitic is higher than the accusative clitic.

- (100) a. *Milan mu želi predstaviti ga.*
 Milan him.dat wants to-introduce him.acc
 'Milan wants to introduce him to him.'
 b. *?*Milan ga želi predstaviti mu.*

Like SC, Slovenian also allows parentheticals to split sequences of clitics, which provides evidence that, as in SC, in Slovenian clitics do not have to cluster together under the same node.

- (101) *Oni so, kot sem vam že rekla, se predstavili Ivanu.*
 they are as am you.dat already said self.acc introduced Ivan.dat

‘They, as I already told you, introduced themselves to Ivan.’

Notice that the clitics in the construction under consideration cannot be switched, which indicates that the auxiliary clitic is higher than the reflexive clitic.⁵⁷

(102) **Oni se, kot sem vam že rekla, so predstavili Ivanu.*

Slovenian clitics, however, differ from SC clitics in that they can occur sentence initially (see Bennett 1986, Browne 1986, 1994, Derbyshire 1993, Franks 1998a, Franks and King 2000, Golden and Milojević Sheppard 2000, Orešnik 1983-1984, Priestly 1993, and Toporošič 1976, among others. Examples (103a-c) are from Franks 1998a and (103d) from Golden and Milojević Sheppard 2000).⁵⁸

- (103) a. *Si ga videl?*
are him seen
‘Have you seen him?’
- b. *Se mi je smejal.*
self me.dat is laughed
‘He was laughing at me.’
- c. *Ga pelje kot otroka, in je ubogal.*
him leads like child and is obeyed
‘She leads him like a child, and he obeyed.’
- d. *Ga še nisi srečal?*
him yet not+are met
‘Haven’t you met him yet?’
- e. *Mu ga je že dala?*
him.dat it.acc is already given

⁵⁷It is worth mentioning here that, for reasons unclear to me, clitic sequences are more resistant to breaking by VP ellipsis in Slovenian than in SC. (The same quite generally holds for sequences of pronominal clitics.)

⁵⁸As pointed out to me by Gasper Ilc (personal communication), who credits the observation to Milena Milojević Sheppard, there is one instance where sentence-initial clitics are always impossible, namely imperatives. A similar situation is found in Macedonian, where clitics, which otherwise can precede a verb and be sentence initial, must follow the verb in imperatives. For much relevant discussion, see section 4.5.

- (i) a. **Mu ga daj!*
him.dat it.acc give
‘Give it to him!’
b. *Daj mu ga!*

‘Has she already given it to him?’

This difference between Slovenian and SC is clearly prosodic. While SC clitics are necessarily suffixes, i.e., they are lexically specified as attaching to the right edge of their host, Slovenian clitics are prosodically neutral, they can attach either to the left or to the right edge of their host. In our terms, both Slovenian and SC clitics are lexically required to be right adjacent to an I-phrase boundary. However, in contrast to SC clitics, which are suffixes, Slovenian clitics can be either prefixes or suffixes. This affects the operation of the delaying effect in Slovenian. Thus, in contrast to SC clitics (see (104b,d,f,g), Slovenian clitics can follow constituents that are obligatorily followed by an I-phrase boundary. This is illustrated in (101). Additional examples, taken from Golden and Milojević Sheppard (2000), are given in (104a,c,e).⁵⁹

(104) a. Z Janezom Drnovškom, sedanjim predsednikom slovenske vlade, # se je

⁵⁹Czech clitics behave like Slovenian clitics in this respect. They are second position clitics which can occur following a pause, both following a sentence-internal pause and sentence initially (See Avgustinova and Oliva 1995, Franks 1998a, Franks and King 2000, Fried 1994, Rezac 2000, Short 1993, Thorpe 1991, Toman 1986, 1993, Townsend 1990, and Veselovská 1995, among others. The latter option appears to be less productive than in Slovenian. In this respect, see the discussion of SC clitics below. Notice also that like Slovenian, Czech is less permissive than SC with respect to clitics "splitting" constituents. However, the same holds for other syntactic movement operations splitting constituents (see Franks and King 2000:360). The correlation between the ability to host a clitic and undergo syntactic movement thus appears to hold in Czech as well. ((ia) is from Toman 1986 and (ib) from Franks 1998a.)

(i) a. Ten doktor, co *mu* důvěruješ, *se* neholí.
that doctor that him trust self not+shave
‘That doctor, who you trust, doesn’t shave.’

b. *Sem* tam nešel.
am there not+gone
‘I haven’t gone there.’

It is worth noting that, as observed in Short (1993:495) (see also Avgustinova and Oliva 1995, Franks 1998a, Franks and King 2000:114-115, and Fried 1994), Czech clitics can be further embedded within a clause, especially if they follow an element bearing emphatic stress. This is illustrated in (ii), taken from Franks (1998a).

(ii) Jistě namítnete, že to VÁM *se* zítra nestane.
surely object that it you.dat self tomorrow not+happen
‘You will surely object that to you, it will not happen tomorrow.’

This is not surprising given that emphatically stressed elements are followed by an I-phrase boundary. The reflexive clitic in (ii) is then still adjacent to an I-phrase boundary. However, Short observes that such a slippage (the term he uses) is beginning to occur even without the feature of stress in colloquial Czech, which can be interpreted as indicating that Czech clitics have started to lose the right-adjacency to an I-phrase boundary requirement (see in this respect the discussion of Polish clitics in section 3.5).

with Janez Drnovšek, present President slovene government self is
srečala samo Milena. (Slovenian)

met only Milena

‘With Janez Drnovšek, the present President of the Slovenian government, only
Milena met’

b. *Sa Janezom Drnovšekom, sadašnjim predsednikom slovenske vlade, # *se je* srela
samo Milena. (SC)

c. Jaz, tvoja mama, #*sem ti* obljubila igračko. (Slovenian)

I your mother am you.dat promised toy

‘I, your mother, promised you a toy.’

d. *Ja, tvoja mama, *sam ti* obečala igračko. (SC)

e. Kdo, za božjo voljo, # *ti je* razbil avto? (Slovenian)

who for God’s sake you.dat is ruined car

‘Who, for God’s sake, ruined your car?’

f. *Ko, za boga, *ti je* razbio auto? (SC)

g. *Oni *su*, kao što *sam vam* već rekla, *se* predstavili Ivanu.

they are as am you.dat already said, self.acc introduced Ivan.dat

‘They, as I already told you, introduced themselves to Ivan.’

Lexical properties of Slovenian clitics are satisfied in (103)-(104a,c,e). The clitics are adjacent to an I-phrase boundary. They merge in PF with the following element, which is allowed given that they can be prefixes.

A technical question arises now. Are Slovenian clitics lexically specified as requiring a host either to the left or to the right, which would essentially mean that Slovenian has both prefix and suffix clitics, or do they altogether lack a lexical specification concerning the direction of their attachment? The former option would essentially entail a double lexical entry for each clitic. I represent the competing options for prosodic requirements in lexical entries of Slovenian clitics as follows:

(105) a. #__

b. Suffix or

b’. Prefix

(106) #__

(105) and (106) seem quite similar. Both (105) and (106) allow Slovenian clitics to either procliticize or encliticize in any particular construction. (105) does this by evoking either the (b) or the (b’) option and (106) by not specifying lexically the direction of attachment, thus letting

Slovenian clitics freely either encliticize or procliticize. Interestingly, it is still possible to tease apart the two options. Consider, for example, how Slovenian clitics would behave in delaying contexts under these two options. It appears that the option in (105) would allow for two possibilities: clitic placement is either not delayed in relevant environments, as in (104a,c,e) (if the prefix option is taken) or it is delayed, as in SC (if the SC suffix option is taken). As for (106), it appears that at least in certain environments, (106) would completely ban delayed clitic placement. Let me clarify this point.

Recall that I have argued above that SC auxiliary clitics always move above participles. In certain cases they are pronounced below the participle, i.e. in the tail of the chain created by their movement, in order to satisfy their prosodic requirements. This situation arises in constructions like (107).

- (107) a. *Je* zaspao *je*.
 is fallen-asleep is
 ‘He fell asleep.’
- b. Juče *je* zaspao *je*.
 yesterday is fallen-asleep is
- c. Sa Petrom Petrovićem, # *se* srela *se* samo Milena.
 with Petar Petrović, self met self only Milena
 ‘With Petar Petrović, only Milena met.’
- d. Sa Petrom Petrovićem, # juče *se* srela *se* samo Milena.
 with Petar Petrović, yesterday self met self only Milena

Suppose now that like SC auxiliary clitics, Slovenian auxiliary clitics also always raise above participles. It appears then that under the option (106), there would never be any need to pronounce a clitic below the participle, i.e. in the tail of its chain. Under (105), on the other hand, the need would arise if the suffix, i.e. the SC option, (105b) is taken. Pronunciation in the tail of the chain would then be forced in the relevant constructions to satisfy a PF requirement on the clitic. Slovenian clearly allows participle-auxiliary constructions like (107a), which appears to favor the option in (105).

- (108) Videl *si* Ivana.
 seen are Ivan
 ‘You saw Ivan.’

There is, however, a potentially interfering factor here. In principle, the participle could be placed in front of the auxiliary clitic through the operation of VP preposing. (More precisely, remnant VP

preposing. The direct object would move out of the VP before the preposing. The relevant phrase could actually be somewhat larger than VP.) The option is ruled out in SC since SC clitics cannot license their complement with respect to the head government part of the ECP (see section 2.2.1.3). Slovenian clitics, however, differ from SC clitics in the relevant respect, as indicated by (109a-b), taken from Golden and Milojević Sheppard (2000), which contrast with SC (110).

- (109) a. Sposoben direktor *je*.
 capable manager is
 ‘Capable manager, he is.’
 b. Zelo dolgočasen *si*.
 very boring are
 ‘You are very boring.’
- (110) a. *Sposoban direktor *je*.
 b. *Jako dosadni *su*.

It is then possible that (108) is derived through VP preposing, which places the VP headed by the participle in front of the auxiliary, rather than through the pronunciation of a lower copy of the auxiliary clitic.

What about constructions such as (107c-d)? The VP preposing derivation might be ruled out for such constructions since VP preposing could interfere with the preposing of the fronted heavy constituent. That is, the VP fronting derivation might result in a subadjacency (i.e. relativized minimality) violation. We thus may have a way of teasing (105) and (106) apart. ((106) would require VP preposing to derive such constructions, whereas (105) would not.) Golden and Milojević Sheppard give one construction of this type in an earlier draft of their (2000) paper. The relevant data, however, do not seem to be completely clear. Whereas they consider (104a), repeated here as (111a), fully grammatical, they give (111b) one question mark.

- (111) a. Z Janezom Drnovškom, sedanjim predsednikom slovenske vlade, # *se je*
 with Janez Drnovšek, present President slovene government self is
 srečala samo Milena.
 met only Milena
 ‘With Janez Drnovšek, the present President of the Slovenian government, only
 Milena met’
- b. ?Z Janezom Drnovškom, sedanjim predsednikom slovenske vlade, # srečala *se je*
 samo Milena.

The question mark given to (111b) could be interpreted as indicating that (106) is to be preferred

to (105). The marginality of (111b), however, might be too weak to draw a definite conclusion.

A more conclusive test is provided by constructions like (112).

- (112) a. Janez *je* kupil avto in *ga* razbil.
 Janez is bought car and it ruined
 ‘Janez bought a car and ruined it.’
 b. *Janez *je* kupil avto in razbil *ga*.

As discussed in section 2.2.2.2.4, the level of coordination in constructions like (112) must be pretty low, lower than CP. The acceptability of (112a) then provides further evidence that Slovenian clitics do not have to be located in C. However, more interesting to us here is the unacceptability of (112b). How can we explain the unacceptability of this construction and its contrast with (112a)? Notice first that the SC counterpart of (112b) is grammatical, as discussed in chapter 2. (The counterpart of (112a) is, of course, unacceptable.)

- (113) a. Janez *je* kupio auto i razbio *ga*.
 b. *Janez *je* kupio auto i *ga* razbio.

Let us suppose that syntactically, the relevant constructions in SC and Slovenian have the same structure and that the only difference between the two languages lies in the prosodic properties of clitics. (112a) should be interpreted as indicating that the pronominal clitic moves in front of the participle in the second conjunct. In SC, (113b) is unacceptable because the clitic, which is strictly an enclitic, cannot be properly supported. The problem does not arise in Slovenian (112a). In SC (113a) we then must be dealing with the pronunciation of a lower copy of the moved clitic, which enables the clitic to get a proper support. Given the ungrammaticality of (112b), this derivation should be blocked in Slovenian. The derivation can be easily blocked if (106) rather than (105) is the correct lexical specification for Slovenian clitics. There would then be no reason to do the dispreferred pronunciation of the clitic in a lower position of its chain. ((105) would allow for this possibility because of the option (105b).) A possible S-Structure for the constructions under consideration in both languages could then be the following: (I use English glosses and omit irrelevant details of the structure. I also indicate the deletions that would take place in PF. In SC, the first *it* is deleted.)

- (114) Janez is_i [_{AgroP} bought+is_i car] and [_{AgroP} it_j ruined+is_i it_j]

What about the remnant VP preposing derivation, which under the analysis adopting (106) is necessary to account for (108)? I suggest that the derivation is blocked because the second conjunct

is "too small" to provide or, more precisely, contain a proper landing site for remnant VP preposing. The contrast between the Slovenian (112) and the SC (113) is thus accounted for. The only relevant difference between the languages is in the independently motivated prosodic properties of clitics, the syntax of the constructions in question being the same. This seems appealing. Adopting (106) instead of (105) has made the analysis possible.⁶⁰

There is another type of construction that might have to be analyzed in a different way depending on whether (105) or (106) is taken to be the lexical entry of Slovenian clitics. As discussed in Browne (1994), Franks (1998a), Franks and King (2000), Orešnik (1983-1984), and Priestly (1993), Slovenian clitics can in some cases stand on their own without a host to which they can attach on either side. When the clitics occur so stranded, they assume the stress:

- (115) a. Ali *mu ga* daje?
 Q him.dat it.acc gives
 'Is he/she giving it to him?'
Mu gà.
- b. Ali *se je* obesila?
 Q self is hanged
 'Did she hang herself?'
Se jè?
- c. Ali *so ga* prinesli?
 Q are it brought
 'Did they bring it?'
So gà.

Nothing special needs to be said about such constructions under (106). Under (105), on the other hand, we need to say something special about these constructions. There are two ways of deriving constructions with stranded, stressed "clitics". "Clitics" in such constructions could be either underlyingly stressed or they could acquire prosodic structure (i.e. stress) during the derivation. Franks (1998a) suggests the latter scenario. In particular, he suggests that if flanked on both sides by I-phrase boundaries, the clitic cluster in Slovenian receives default stress on its final syllable. However such constructions are derived, it appears that if (105) is adopted, stressed clitics need to

⁶⁰In this respect, notice that there is some contrast between (101) and (i). The marginal status of (i) could be attributed to an attempt to do VP preposing to a position below the parenthetical.

(i) ?Oni *so*, kot *sem vam že* rekla, predstavili *se* Ivanu.

be exempt from the requirement (105b/b'), which then reduces (105) to (106). (It is actually possible that stranded stressed clitics are not subject to any of the prosodic requirements on "normal" unstressed clitics, though by definition (and perhaps irrelevantly) they conform to (105a), but not to (105b/b').)

Klaus Abels (personal communication) observes that this is not necessarily the case. It is well-known that very often crosslinguistically, when a proclitic and an enclitic, or a prefix and a suffix, are combined, the prosodic subcategorizations of the proclitic and the enclitic, or bound morphemes in general, cancel each other so that the combination proclitic+enclitic/prefix+suffix as a whole is not prosodically dependent (see Buckley 1991, Halpern 1995, and Inkelas 1989 for relevant discussion). The elements in question lean on each other satisfying each other's prosodic requirements. One example of this concerning cliticization can be found in Alsea, where, as discussed by Buckley (1991), a second position enclitic (*in* in the example below) can combine with a proclitic (*k*).

- (116) k=in qan qaʔáʔa təsin-áʔa.
 irr=1sg I always point-irr.tr
 'I will always point at him.'

Inkelas (1989) provides several examples of this kind from English where two bound morphemes appear to lean on each other, as in, for example, *ad-mit* and *pre-fer*. Inkelas suggests that whether two prosodically dependent elements can cancel each other's prosodic requirements when combined is subject to crosslinguistic variation. The variation can in fact be found even within one language. Thus, the proclitic preposition *na* and the enclitic, which is not a second position enclitic, *nj* in the SC (117a) cancel each other's prosodic requirements so that the resulting combination is tonic (i.e., it is not a clitic). Such a cancellation is not possible with the combination of *na* and the second position enclitic *ga*. ((117b) is unacceptable regardless of whether *da* is present. Notice that the paradigm in (117) is consistent with the claim that SC second position clitics cannot occur as complements of preposition, discussed in section 2.2.2.2.7)

- (117) a. (da) na nj je ljut.
 that on him is angry
 '(that) he is angry with him.'
 b. *(da) na ga je ljut.

This kind of variation is attested even for particular lexical items. Thus, in Bulgarian, all speakers allow cancellation of prosodic requirements with the combination of the proclitic *šte* and

pronominal and auxiliary enclitics (*si* in (118)). As for the combination of *šte* and the enclitic *li*, some speakers apparently allow the cancellation, and some do not. (More precisely, the cancellation is allowed in the Rhodopean dialect, but not in standard Bulgarian. A similar situation is found with the *ne+li* combination, *ne* being the negative marker. Bulgarian clitics are discussed extensively in chapter 4.)

- (118) a. Šte si napisal pismoto.
 will be written letter-the
 ‘You will have written the letter.’
 b. (*)Šte li si napisal pismoto?
 will Q be written letter-the
 ‘Will you have written the letter?’

Returning now to the Slovenian constructions in (115), Klaus Abels (personal communication) observes that we do not need any additional stipulations to account for the acceptability of such constructions even if (105) is the correct lexical specification of Slovenian clitics. Assuming that in this case, a proclitic and an enclitic can cancel each other’s prefix/suffix requirements when combined, the acceptability of stranded-clitics constructions in (115) is accounted for straightforwardly if we take the prefix option (105b’) for the first clitic and the suffix option (105b) for the second clitic. While this analysis nicely accounts for (115), it faces a problem in the fact that single clitics can also appear flanked on both sides by I-phrase boundaries, as shown by the following construction from Priestly (1993). (Notice that we are not dealing here with the strong reflexive form, which is *sebe*, but with the clitic form. *Ja* can be dropped.)

- (119) (Ali) *se* dobro počutiš? Ja, *sè*.
 Q self good feel yes self
 ‘Do you feel well? Yes, I do.’

Klaus Abels (personal communication) observes that regardless of how we formally capture the apparent fact that Slovenian clitics can be either enclitics or proclitics, i.e. prefixes or suffixes, we might not want to allow completely free combinations of the prefix/suffix options. Doing this could overgenerate with respect to the possibilities of breaking a clitic cluster in Slovenian by allowing constructions of the following type: #cl x cl, with the prefix option for the first clitic and the suffix option for the second clitic. (This would actually happen regardless of whether (105) or (106) is adopted. Neither of them would block this kind of combination of the direction of attachment for clitics.) Interestingly, some constructions of the relevant type are quite acceptable,

though still somewhat marginal. (A possible context for (120) would be a question expressing the speaker's doubt about yesterday.)

- (120) ?*So* včeraj *ga* pretepli?
 are yesterday him beaten
 'They beat him yesterday?'

It appears, then, that we might want to allow for the possibility of mixed attachment of two clitics to the same host, though the relevant data are not completely clear. If, due to the unclarity of the data, we decide that the possibility should be ruled out, we can adopt a condition to this effect. One possibility is to assume that clitics located in the same I-phrase must be parsed into a prosodic constituent, which attaches to its host as a unit. This would make it impossible to derive mixed attachment constructions. I will assume here the analysis that allows mixed attachment (see also the discussion of (121)-(122)), though nothing crucial in the current approach hinges on the choice. Further investigation of the data should lead to a more definite choice between the two options.

In this respect, notice that the following construction contrasts with (120).

- (121) **Si* videl *ga*.
 are seen him
 'You saw him.'

The contrast can be readily accounted for if (106) is the correct lexical specification for Slovenian clitics. Under this analysis, the only way to derive the participle-clitic order is by doing remnant VP fronting. However, we have seen above (see the discussion concerning examples in (112)) that there is no appropriate site for remnant VP preposing below the position of the auxiliary. On the other hand, if we adopt (105) it is not clear how the contrast between (120) and (121) or, more precisely, the ungrammaticality of (121), can be accounted for if we take the prefix option for the first clitic and the suffix option for the second clitic. The latter option would sanction the pronunciation of the pronominal clitic below the participle in (121).

Klaus Abels (personal communication) observes that the contrast between (120) and (122) also favors (106) over (105).

- (122) **Ga* včeraj *so* pretepli?
 him yesterday are beaten

Under (105), (122) can be derived by taking the prefix option for *ga* and the suffix option for *so*.

So, but not *ga*, would then have to be pronounced in a lower position following the participle. The contrast between (120) and (122) thus remains unaccounted for if we adopt (105). Under (106), (122) is underivable since there is no reason to pronounce *so* after (i.e. lower than) *ga*. The contrast between (120) and (122) is thus readily accounted for if we adopt (106). In light of the discussion of (120)-(122) and (112), I conclude that (106) and not (105) is the correct lexical specification for Slovenian clitics.

We have seen above that in spite of a number of similarities between the clitic systems of Slovenian and SC, there are also some significant differences, the most important of which concern the ability of Slovenian clitics to start a sentence or occur in front of a pause. We have captured this state affairs by positing similar but slightly different lexical requirements on Slovenian and SC clitics. Clitics in both languages have the requirement in (105a). In addition, SC clitics have the suffix requirement. Slovenian clitics, on the other hand, have both the suffix and the prefix option, which can be formally captured as discussed above. The syntax of the relevant constructions in Slovenian and SC can be kept constant in the two languages.

Interestingly, SC seems to be becoming like Slovenian in the relevant respect. As noted in Bennett (1987), Percus (1993), and Schütze (1994) (for some relevant discussion, see also Browne 1975), for most (though not all) speakers nowadays, clitics can occur after a pause induced by the presence of a heavy constituent. This is illustrated by the following construction from Bennett (1987), with | indicating a pause.

- (123) Problemi o kojima ćemo razgovarati| *su* kompleksni.
 problems about which will converse are complex
 ‘Problems that we shall discuss are complex.’

Circumstances under which this kind of construction are possible are still mysterious. The fact that judgments are often shaky with respect to such constructions does not help here. (Interestingly, to me, clitics used in such constructions have a feeling of belonging to a different kind of a system from "regular" clitics.) One interesting fact about such constructions is that they are better when the heavy element which induces the pause is an argument instead of an adjunct. This is illustrated by the following contrast from Percus (1993):

- (124) a. Na taj izuzetno veliki kuhinjski sto| *sam* stavio narandžu.
 on that extremely big kitchen table am put orange
 ‘On that extremely big kitchen table, I put an orange.’
 b. *U tom prelepom odmaralištu na Rivieri| *sam* zaprosio Mariju.
 in that gorgeous resort on Riviera am proposed Marija

‘In that gorgeous resort on the Riviera, I proposed to Marija.’

Browne (1975) reports that for some speakers, such constructions are better with *je* than with other auxiliary clitics, which, as pointed out by Schütze (1994), is another piece of evidence that *je* is "less of a clitic" than other clitics. Interestingly, this kind of construction is unacceptable with pronominal clitics, in contrast to Slovenian (see (111a)).

- (125) a. *Na taj izuzetno veliki kuhinjski stol ga stavlja (Jovan)
 on that extremely big kitchen table it puts Jovan
 ‘On that extremely big kitchen table, Jovan is putting it.’
 b. *Na taj izuzetno veliki kuhinjski stol sam ga stavio.
 on that extremely big kitchen table am it put
 ‘On that extremely big kitchen table, I put it.’

What seems to be going on here is that SC is becoming like Slovenian; it is gaining the property that allows Slovenian clitics to occur after a pause, unsupported to their left. In other words, SC clitics are starting to lose their obligatory encliticness, or the suffix requirement in our terms, and are becoming able to function as proclitics. The fact that the process in question is restricted to some clitics is not surprising under the current analysis, where the formal property behind the process in question is stated as a lexical property. It is then not a surprise that it can vary across lexical items. (I return to the adjunct/argument contrast from (124) below.)

Things are, however, more complicated in SC than in Slovenian. SC differs from Slovenian in that it does not allow constructions like (115). In fact, SC clitics can never appear sentence initially. The pause they follow must be a pause induced by a heavy phrase; it cannot be a pause marking the beginning of an utterance. Thus, the following SC constructions contrast with the Slovenian (103) as well as the SC (123). (The SC constructions are changed to remove pronominal clitics, since they can never occur after a pause.)

- (126) a. **Si* vidio Marka?
 are seen Marko
 ‘Did you see Marko?’
 b. **Su* poljubili Mariju.
 are kissed Marija
 ‘They kissed Marija.’

How do we make sense of these data, in particular, the contrast between (126) and (123)? The fact

that in spite of the presence of a pause, phonologically realized material must occur preceding the clitics in question indicates that the clitics in question are still subject to the suffix requirement, i.e., they are still enclitics. The rest of the story one can tell about the constructions in question follows immediately.⁶¹ Suppose that pauses are inserted, as is usually assumed, during I-phrasing. Let us furthermore assume that there is a readjustment stage in which pauses can also be inserted. This means that there are two stages of Prosodic Mapping.

(127) Prosodic Mapping

1. Prosodic Phrasing
2. Prosodic Readjustment

Suppose now that the pause in examples like (123) is inserted in the Prosodic Readjustment stage (the pause is inserted right after the heavy constituent, hence before the clitic) and that for the speakers who accept such constructions, the suffix requirement can be checked prior to the readjustment stage.⁶² The contrast between (123) and (126) then straightforwardly follows if SC clitics are still subject to the suffix requirement, i.e., if they are still enclitics. The enclitic requirement can be satisfied in (123), but not in (126). As pointed out by Schütze (1994), the contrast in (124), another difference between SC and Slovenian (as shown in (128), the Slovenian counterpart of (124b) is acceptable), can be accounted for if for some reason, pauses following heavy adjuncts must be inserted in stage 1 (Prosodic Phrasing), in contrast to pauses following heavy arguments, which can be inserted in stage 2 (Prosodic Readjustment). (The reason for the difference remains to be determined. Notice that assuming that prosodic phrasing is sensitive to the argument/adjunct distinction is not without a precedent. See, for example, Chen 1990 for convincing arguments to this effect.)

- (128) V tistem prelepem počivališču na Rivijeri| *sem* zaprosil Marijo.
 in that gorgeous resort on Riviera am proposed Marija
 ‘In that gorgeous resort on the Riviera, I proposed to Marija.’

⁶¹I am following Schütze (1994) here. However, the mechanism of PI, which Schütze argues for, is eliminated from the analysis.

⁶²An alternative is to consider the suffix requirement a morphological requirement, with the morphology derivationally preceding the phonology, where prosodic phrasing takes place, within PF. Under this analysis, the suffix requirement in (123) would also be checked prior to pause insertion.

Notice that Wilder (1997a) also argues that the directional cliticization requirement can be satisfied during the derivation in PF. (He gives an example where X, which has to procliticize to Y, is a proclitic on Y during the derivation in PF, but not in the final PF representation.)

Under this analysis, the clitic in SC constructions like (123) differs from the clitic in Slovenian constructions like (111a) in that the SC clitic is still an enclitic, whereas the Slovenian clitic can be a proclitic. The enclitic/proclitic analysis enables us to explain the contrast between the SC (126) and (124b) and the Slovenian (103) and (128), where the clitics follow a sentence-initial pause and a pause following a heavy adjunct.

There is also evidence concerning constructions like (123) themselves that the clitic is not a proclitic, which it appears to be at first sight. Inkelas and Zec (1988) and Zec and Inkelas (1992) observe that some dialects of SC have the rule of Spreading of High Tone (129) that can spread a word-initial High tone from a host to a proclitic, as in the example in (130), involving a proclitic preposition.

(129) Spreading of High Tone

t t → t t t=mora
 | \ |
 H H

(130) a. kuća ‘house’

|
 H

b. u kuću → u kuću ‘in house’

| \ |
 H H

Significantly, spreading of High tone is not possible with an auxiliary clitic that follows a pause, as in (131), which can be accounted for if such clitics are not proclitics.

(131) Prijatelji o kojima ćemo razgovarati| su kući otišli.

friends about whom will converse are home gone
 ‘Friends that we shall discuss went home.’

This confirms the above analysis. Notice finally that the auxiliary in constructions like (123) and (131) can be not only preceded, but also followed by a pause (i.e., it can have pauses on both sides), as expected under the current analysis.

In conclusion, although at first sight it appeared that constructions such as (123) provide evidence that at least some SC clitics are like Slovenian clitics in that the proclitic option is available to them, a closer scrutiny of such constructions has revealed that, in contrast to Slovenian clitics, SC clitics are still strictly enclitics. (105b) is still the only option for SC clitics in the

relevant respect, in contrast to Slovenian clitics, which can attach to a host either to their left or to their right. We are, however, probably dealing here with a change in progress. It is easy to see how children acquiring SC could interpret the possibility of constructions such as (123) as indicating that SC clitics can be proclitics. In fact, this is certainly the most natural and straightforward interpretation of the data. The fact that most evidence against the proclitic analysis is negative evidence, as in (124b) and (126), is also helpful for the proclitic analysis. (Recall also that the evidence concerning the spreading of High tone is not available in all dialects.) We should then probably expect that in due time, SC will indeed become like Slovenian with a full blown proclitic option, eventually allowing (124b), (125), (126), and High Tone Spread with all clitics. What hinders the proclitic option reanalysis is that constructions such as (123) are themselves very rare. Recall also that the analysis adopted above, which follows Schütze (1994), is based on the existence of two stages in Prosodic Mapping, as in (127). As a result, to the extent that it is successful, it provides evidence for this somewhat more complicated conception of Prosodic Mapping. The argument for the two-stage Prosodic Mapping might appear to be rather involved. However, the form of the argument is rather simple: there is a PF process/requirement that is sensitive to some but not all results of prosodic mapping. This can be accounted for if prosodic mapping is a two-stage process with the process/requirement in question applying between these two stages. (Notice incidentally the derivationality of PF.) Let me finally reiterate that under the analysis presented here, the differences in clitic placement between Slovenian and SC discussed above are all a result of an independently motivated difference in the prosodic requirements of clitics in the languages in question, namely the loss of the suffix requirement in Slovenian. (Clitics in both languages are still subject to the second position requirement, i.e., they must be right adjacent to an I-phrase boundary.) The syntax of clitics and elements relevant to clitic placement is the same in both languages, an appealing result.

3.5. POLISH CLITICS

We have seen that Slovenian clitics (see also fn. 59 for Czech clitics) are prosodically similar to SC clitics. They are also subject to the second position requirement, which means they need to be right adjacent to an I-phrase boundary. However, they have relaxed the suffixal requirement of SC clitics: they can be either suffixes or prefixes. Polish clitics have kept the suffixal requirement, i.e., they are enclitics. However, they are not subject to the second position requirement. In other words, they are specified for the requirement in (105b), but not (105a). The data in (132) illustrate this.

(Clitics are given in italics.)⁶³

- (132) a. Piotrek dał *ci go*.
 Piotrek gave you.dat it.acc
 ‘Piotrek gave it to you.’
 b. Piotrek *ci go* dał.
 c. **Ci go* Piotrek dał.
 d. My-*śmy* znowu poszli do parku.
 we-aux.1pl again went to park
 ‘We went to the park again.’
 e. My znowu-*śmy* poszli do parku.
 f. My znowu poszli-*śmy* do parku.
 g. **Śmy*-my znowu poszli do parku.

Polish clitics clearly do not have to occur in the second position of their I-phrase. The only prosodic requirement that they have is that their host must precede them. As a result, they have a considerable freedom of distribution. Auxiliary clitics, however, do have one very strong constraint on their placement. If they occur after the finite verb they must be immediately adjacent to it.

- (133) *My znowu poszli do parku-*śmy*.
 we again went to park-aux.1pl

This is not surprising. Recall that the order participle-auxiliary is achieved by the participle left-adjoining to the auxiliary (see also Borsley and Rivero 1994). As a result, the only way of deriving constructions such as (133) is by having the intervening phrase also undergo head movement to the auxiliary, which is not allowed.

Recall now that in SC, the auxiliary incorporates to move to I after adjunction of the participle to the auxiliary. If phonologically overt material precedes the auxiliary clitic in its raised position, the head of the chain of auxiliary movement is pronounced in PF. If no phonologically overt material precedes the raised auxiliary, the tail of the chain created by auxiliary movement is pronounced, in which case the participle precedes and hosts the auxiliary.

This analysis cannot be readily extended to Polish because of constructions such as (134).

⁶³As discussed in Franks (1998a) and Franks and King (2000) (see also Rappaport 1988), the clitic system of Polish is in a considerable flux, with both verbal and pronominal clitics losing their clitic properties. The former are becoming affixes, and the latter are becoming full, non-clitic pronouns.

- (134) *My znowu poszli-śmy do parku.*
 we again went-aux.1pl to park

In this construction there is no need to pronounce the tail of the chain created by auxiliary movement since the auxiliary clitic should be able to attach to the phonologically overt element preceding it in its raised position. One way of handling (134), which is not very appealing, would be to assume that auxiliary movement is optional in the overt syntax in Polish: the auxiliary can, but does not have to, move overtly. An alternative analysis that does not involve optional movement is available. Franks (1998a) (see also Franks and Bański 1999 and Franks and King 2000) argues convincingly that Polish weak auxiliaries are ambiguous in that they can be either clitics or verbal suffixes. (For discussion of the morphological status of weak auxiliaries in Polish, see also Aguado and Dogil 1989, Bański 1997, 1998, Dogil 1987, Dornisch 1998, Embick 1995, Gussman 1980, Kipka 1989, Mikoś and Moravcsik 1986, Rappaport 1988, Sussex 1980, and Szczegielniak 1995). In constructions in which they are preceded by a non-verbal XP, as in (132d-e), they must be clitics. When they are hosted by a verb, they can be either clitics or suffixes. One piece of evidence that they can be suffixes when hosted by a verb, the option we are interested in here, is provided by the fact that, as discussed in Booij and Rubach (1987), they count as part of the verb for the purpose of determining whether /o/ to [u] raising, a word-internal process taking place in word-final syllables closed by a voiced obstruent, takes place. The following examples from Franks and Bański (1999) show that a weak auxiliary following a verb blocks /o/ to [u] raising.

- (135) a. *Ja-m mu pom[u]gł.*
 I-aux.1sg him help
 'I helped him.'
 b. *Ja mu pom[o]głe-m.*

Under the clitic/auxiliary analysis, the auxiliary clitic in Polish may be behaving just like the auxiliary clitic in SC. It is generated in a separate projection, the main verb adjoins to it, after which the clitic obligatorily moves overtly to I, excorporating out of the complex head formed by participle adjunction. Constructions that cannot be derived in this way, such as (134), can then simply instantiate the suffix option. The auxiliary in (134) is a suffix, which under the lexicalist approach to verbal morphology means that it is lexically inserted together with the verbal stem in the main verb projection.

Recall now that apart from a few exceptions discussed in chapter 2, SC clitics generally cluster together. In fact, clitics located in the same I-phrase always cluster together in SC. Under

the analysis presented in chapter 2, this clustering is a result of the second position requirement or, more precisely, the requirement that SC clitics be right adjacent to an I-phrase boundary. Separating SC clitics that belong to the same I-phrase by non-clitic material inevitably results in a violation of the requirement in question. Since Polish clitics are not subject to the second position requirement, if there are no other interfering factors (for example additional syntactic or phonological requirements on clitics), under the current analysis we would expect it to be easier to break up clitic clusters in Polish than in SC. The expectation is borne out. As illustrated by the following constructions, even Polish clitics that are contained in the same I-phrase can be separated by non-clitic material. ((136a) is from Franks 1998a and (136b) from Rappaport 1988. (136c-d) give SC equivalents of (136a-b). The order of pronominal clitics in (136d) does not affect the grammaticality of the construction.)

- (136) a. *Kiedy-śmy zobaczyli go?*
 when-aux.1pl saw him
 ‘When did we see him?’
- b. *Kiedy-śmy go wreszcie mu odebrali...*
 when-aux.1pl it.acc at-last him.dat took-away
 ‘When we at last took it away from him...’
- c. **Kada smo vidjeli ga?*
 when are seen him
 ‘When did we see him?’
- d. **Kada smo mu konačno ga oduzeli...*
 when are him.dat at-last it.acc taken-away
 ‘When we at last took it away from him...’

This difference between Polish and SC presents a confirmation of the analysis of the obligatoriness of clitic clustering (within an I-phrase) in SC presented in this work, which attributes it to the second position requirement, absent from Polish. Apparently, removing the second position requirement results in the relaxation of the clitic clustering requirement, as expected under the current analysis.

Finally, let me reiterate that under the analysis presented here, all the differences in clitic placement between Polish, SC, and Slovenian discussed above are a result of independently motivated differences in the prosodic properties of clitics in the languages in question, which can be learned quite easily. The syntactic behavior of clitics and elements relevant to clitic placement is essentially the same in all three languages under consideration.

I conclude the discussion of Slavic cliticization in this chapter by comparing the

pronunciation-of-a-lower-copy analysis, on which a PF operation affects word order without actual movement in PF (recall that, as discussed in chapter 2, PF also does this through a filtering effect on the syntax), and the Prosodic Inversion (PI) analysis, on which actual movement takes place in PF. Notice that the former is not simply a notational variant of the latter. First, the two differ empirically. On the one hand, the mechanism of the pronunciation of lower copies is more powerful than PI with respect to the ability of PF to affect word order in that it is not as local as PI. On the other hand, it is less powerful than PI since it depends on the presence of copies of movement. As a result of the latter, none of the constructions that were argued to be a problem for the PI analysis in section 2.2.1.1 raise a problem for the pronunciation-of-a-lower-copy analysis. Notice also that the latter analysis of clitic placement is based on a mechanism that, as shown in section 3.1, has ample empirical motivation outside of the domain of cliticization. This is not the case with the PI analysis. The pronunciation-of-a-lower-copy analysis of clitic placement thus comes for free, i.e., it does not require positing any new mechanisms to account for clitic placement. This is not the case with the PI analysis. The former analysis is thus also conceptually superior to the latter analysis. This is reinforced by the fact that on the former analysis, PF affects word order through a strictly phonological mechanism, whereas under the latter analysis this is accomplished by transferring a syntactic mechanism (movement) into PF.

In the next section I present an extension of the current account of the second position effect to the V-2 effect in the Germanic languages. We will see how the pronunciation-of-a-lower-copy analysis can handle in a principled way some rather surprising data concerning V-2 in Northern Norwegian. The Prosodic Inversion analysis seems inapplicable to the data in question.

3.6. THE V-2 EFFECT IN GERMANIC

It is well-known that the finite verb must appear in the second position of matrix clauses in most Germanic languages, as illustrated by the following example from German.

- (137) a. Das Buch hat die Frau gelesen.
 the book has the woman read
 ‘The woman has read the book.’
 b. *Das Buch die Frau hat gelesen.

The verb second effect shares a number of similarities with the clitic second effect, as discussed in Franks (1998b) (see also Anderson 1993 and Progovac 1998c for much relevant discussion).

Thus, like second position clitics, the verb can occur in the third position of its sentence in German as long as it is still located in the second position of its I-phrase. The following example from Boeckx (1998) illustrates this. Although located in the third position of its clause, the verb is still second within its I-phrase, given that the sentence-initial constituent is parsed as a separate I-phrase, as indicated by the fact that it is followed by a pause.

- (138) Wie reich sie auch sei,# ich heiratete sie nicht.
 However rich she too may-be I would-marry her not
 ‘However rich she may be, I would not marry her.’

Recall also that, as discussed extensively in chapter 2, there is no structurally fixed second position for clitics in SC. It was demonstrated in chapter 2 that this fact raises a very serious problem for purely syntactic accounts of second position cliticization, but can be easily accommodated under accounts in which the phonology plays a major role in second position cliticization, as in the account developed in this work. Interestingly, it has been argued in the literature that the verb in V-2 constructions does not have a fixed structural position, just like SC clitics. Thus, Travis (1984, 1991) and Zwart (1993) provide strong arguments that the verb in V-2 constructions is not always located under C, as is usually assumed. In particular, they provide evidence that the verb is located in I in subject V-2 constructions.

Following Anderson (1993) and Franks (1998b) (see also Boeckx 1998:275-276 and Progovac 1998c), I take these similarities between the clitic second effect in Slavic and the verb second effect in Germanic to warrant a unified analysis for the two phenomena, with the clitic behavior generalized to verbs. In our terms, then, the verb in Germanic V-2 constructions is subject to the following PF requirements, just like SC clitics.

- (139) a. Suffix
 b. #_

(139a) requires a phonologically overt element in front of the verb, and (139b) right adjacency to an I-phrase boundary. The seemingly conflicting requirements can be satisfied as discussed in section 2.3.2.⁶⁴

⁶⁴For contexts, such as yes-no questions, in which the verb in Germanic main clauses occurs in sentence-initial position we can assume either that the requirement in (139a) is somehow suppressed in these contexts or, more generally, that the verb in Germanic main clauses patterns with Slovenian rather than SC second position clitics in that it is subject only to the requirement in (139b).

Subjecting the verb in Germanic to the second position clitic requirement is not as strange as it may appear at first sight. It is well-known that in early Indo-European, finite verbs in main clauses were accentless second position elements (see Wackernagel 1982). What we may be dealing with in the case of the Germanic V-2 effect can then simply be a remnant of the more general clitic second requirement on verbs in Indo-European.⁶⁵

An interesting piece of evidence that the V-2 effect in Germanic is phonological in nature, which also provides additional evidence for the possibility of pronunciation of lower copies sanctioned by PF considerations, is provided by certain data from Northern Norwegian discussed by Rice and Svenonius (1998).

Like most other Germanic languages, Northern Norwegian is a V-2 language, as illustrated by (140). (All the Northern Norwegian data are taken from Rice and Svenonius 1998.)

- (140) Korsen kom ho hit?
 how came she here
 'How did she get here?'

However, Rice and Svenonius observe an additional requirement on V-2 in Northern Norwegian. According to them, the element preceding the verb in V-2 constructions must be a phonological phrase, which they assume minimally contains one foot (i.e. two syllables). The requirement is satisfied in (140), but not in (141), where the element preceding the verb is too "light" phonologically.⁶⁶

- (141) *Kor kom du fra?
 where came you from
 'Where did you come from?'

Rice and Svenonius observe that (141) can be saved by placing the verb in the third position following the subject, as illustrated by (142).

- (142) Kor du kom fra?

The data in question clearly show that the V-2 effect in Northern Norwegian is phonological in

⁶⁵The effect is not confined to unstressed verbs in modern Germanic.

⁶⁶There are some complications concerning the judgments here due to interference from Standard Norwegian. See Rice and Svenonius (1998) and references therein for relevant discussion.

nature. It is difficult to see how a purely syntactic account of the V-2 effect could capture the data. The current system, on the other hand, handles them straightforwardly.

Apparently, the requirement in (139a) has to be a bit more specific in Northern Norwegian. It is not enough to simply put a phonologically realized element in front of the verb, which would suffice to satisfy (139a). The "host" must be a phonological phrase, a requirement which can be easily built into (139a). The ungrammaticality of (141) then follows straightforwardly. What about (142)? The grammaticality of (142) can also be easily captured. In the output of the syntax there is at least one copy of the verb following the subject.

(143) [_{CP} Kor kom [_{IP} du kom fra]]

If the highest copy of the verb is pronounced in PF, a PF violation occurs. The violation can be avoided by pronouncing a lower copy of the verb, which is allowed in the system adopted here.⁶⁷

(144) [_{CP} Kor ~~kom~~ [_{IP} du kom fra]]

Notice also that (145a) is ruled out because in contrast to (142), in (145a) there is no reason to pronounce the verb in a lower position (see the structure of (145a) in (145b)).⁶⁸

- (145) a. *Korsen ho kom hit?
 how she came here
 ‘How did she get here?’
 b. [_{CP} Korsen ~~kom~~ [_{IP} ho kom hit]]

The Northern Norwegian data under consideration are thus accounted for. Notice that under the above analysis, the relevance of phonological information to the V-2 effect in Northern Norwegian, including the contrast between (141) and (142), which is resistant to a purely syntactic account, is captured without any PF movement. PF considerations do affect word order, but not through actual

⁶⁷Following Rice and Svenonius, I assume that the monosyllabic wh-phrase and the subject in (144) can be parsed into a single phonological phrase, which is necessary to satisfy the requirement in (139b). I assume that a phonological word does not always have to be dominated by a phonological phrase, weakening the Strict Layer Hypothesis (see Selkirk 1995 for a weak version of the Strict Layer Hypothesis), and that the option of parsing a monosyllabic wh-phrase and the subject following it as a single phonological phrase, which I assume is *not* universally available (see in this respect fn. 69), arose in Northern Norwegian to make it possible to question "short" wh-phrases.

⁶⁸In V-2 Germanic languages that do not require the element preceding the verb to be at least a phonological phrase this would be the case even in constructions with monosyllabic wh-phrases, such as German (ii) in fn. 69.

PF movement. (142) involves pronunciation of a lower copy of the verb sanctioned by PF considerations, which do not sanction it in (145a). (141), which is syntactically well-formed, is filtered out in PF.⁶⁹

The pronunciation-of-a-lower-copy analysis might also be applicable to multiple subject constructions in Icelandic under Chomsky's (1995) analysis of such constructions. Chomsky argues that in Icelandic multiple subject constructions, both subjects are located in SpecTP, with the verb moving to T. (In the discussion of Icelandic in this section I use Chomsky's 1995 system, which dispenses with Agr phrases. I also assume that the subject is base-generated above a shifted object, one of the options Chomsky explores (p. 358-359). Bobaljik and Jonas 1996 provide one argument against this analysis. The argument is, however, crucially based on Sportiche's 1988 theory of quantifier float, which, as is well-known, is problematic in several respects. Notice also that, as far as I can tell, although I have used Agr phrases above, the discussion so far could be restated within a system without Agr phrases given some rather straightforward assumptions.)

(146) [_{TP} Subject1 [_{T'} Subject2 V]]

⁶⁹There is actually an alternative to the above analysis of (142), which relies on obligatory V-to-C movement in the construction under consideration. Under the alternative analysis, V-to-C movement in V-2 constructions is always in principle optional, which is what Rice and Svenonius assume. (142) is derived without employing V-to-C movement, which means that the verb remains below the subject in the syntax, as shown in (i).

(i) [_{CP} Kor [_{IP} du kom fra]]

Under this analysis, constructions such as (145a) are filtered out in PF due to a violation of the second position requirement. (The assumption here is that *korsen*, a "long" wh-phrase, cannot be parsed into the same phonological phrase with the following subject.) As discussed above, if the verb does move to C in (145a), the construction is also ruled out because there is no reason to pronounce it in a lower position.

How can V-2 Germanic languages which do not require the element preceding the verb to be at least a phonological phrase be handled under the optional-movement-to-C analysis? One such language is German, where the judgments in (ii) hold.

- (ii) a. *Was Irene kaufte?
 what Irene bought
 'What did Irene buy?'
 b. Was kaufte Irene?

If the verb moves to C in (iia) the construction is ruled out because there is no reason to pronounce the verb in a lower position, in contrast to the verb in the Northern Norwegian counterpart of (iia). (This suffices to rule out such constructions under the obligatory-V-to-C-movement analysis, see fn. 68). As for the derivation on which the verb does not move to C in (iia), we can assume that the wh-phrase and the subject cannot be parsed into a single phonological phrase in German, in contrast to Northern Norwegian (see fn. 67). As a result, the derivation results in a violation of the second position requirement.

This structure does not represent the actual linear order of multiple subject constructions in Icelandic. In the actual order, the verb appears between the subjects, as illustrated in (147), an actual instantiation of the abstract structure in (146). (The expletive is subject1 and the indefinite is subject2.)

- (147) Það luku einhver verkefninu.
 there finished someone the assignment
 ‘Someone finished the assignment.’

Chomsky (1995:368) suggests that V-2 is a PF requirement, which is also the position adopted here, and that due to the V-2 requirement, the verb and the subject2 are permuted in PF, so that the verb ends up in second position. Given the possibility of pronunciation of lower copies motivated by PF considerations, the V-2 requirement in the construction under consideration can be satisfied without actual PF movement. In Chomsky’s analysis, there is a copy of Subject2 below the verb in (146). (146) can then be saved from violating the second position requirement on the verb, which is a PF requirement, by pronouncing the lower copy of Subject2. Lower pronunciation is sanctioned here since it is needed to satisfy a PF requirement. (The order of the two SpecTPs can in principle be free.)

- (148) [_{TP} Subject1 [_T ~~Subject2~~ V [_{vP} Subject2 ...

Notice also that (149) is ungrammatical.

- (149) *Einhver luku það verkefninu.
 someone finished there the assignment

Apparently, we cannot affect the expletive by PF "permutation" in order to satisfy the second position requirement on the verb. If the PF "permutation" to satisfy the second position requirement on the verb were to take place through actual PF movement, it is not clear why this should not be possible. Under the pronunciation-of-a-lower-copy analysis, this state of affairs can be captured straightforwardly: whereas the indefinite moves to SpecTP from a lower position, the expletive is inserted directly into SpecTP. As a result, a copy of the indefinite, but not a copy of the expletive, is available for pronunciation below the verb. Therefore, under the current analysis, only the

indefinite can be, and must be, pronounced below the verb. (149) is underivable.⁷⁰

⁷⁰The following examples from Vikner (1995), which provide evidence that the indefinite subject in transitive expletive constructions indeed moves outside of its θ -position, have interesting theoretical implications for the pronunciation-of-a-lower-copy analysis. The relevant abstract structures (without irrelevant details) are given in (ic-d). (Notice that I assume that the complementizer *að* is phonologically parsed together either with the preceding or with the following word, so that *mun* is second within its I-phrase.)

- (i) a. *að það mun einhver hafa borðað þetta epli.*
 that there will someone have eaten this apple
 ‘that someone will have eaten this apple.’
 b. **að það mun hafa einhver borðað þetta epli.*
 c. [_{TP} expl **subject** aux [_{VP} subject aux [_{VP} **subject** object]]]
 d. *_{TP} expl **subject** aux [_{VP} **subject** aux [_{VP} subject object]]]

It appears that we need to pronounce the highest of the two available copies of the indefinite subject. This is actually expected under Franks’s (1998a) analysis, where it is claimed that when the head of a chain cannot be pronounced for PF reasons, the next highest copy is pronounced. The data concerning A’-movement discussed in section 3.1.1 could be interpreted as indicating that we might have more freedom in this respect with A’-chains, though the relevant data are not completely clear. (Richards’s 1997 Minimal Compliance Principle was also an interfering factor with the A’-movement examples.) I return to the issue in chapter 4, where I discuss head movement. As discussed above, the preliminary conclusion with respect to head movement is that the highest copy is pronounced. The issue is discussed in detail in chapter 4, where I also offer an explanation for the potentially different behavior of various types of chains with respect to PF realization.

4

BULGARIAN AND MACEDONIAN CLITICS

This chapter is devoted to clausal clitics in Bulgarian and Macedonian. With the exception of the interrogative complementizer *li*, discussed in section 4.3, and a few configurations discussed in section 4.5, Bulgarian and Macedonian clausal clitics are not second position clitics. They are verbal clitics in the sense that they are always adjacent to the verb. Like clitics in other Slavic languages, they have a fixed order, given in (1) for auxiliary and pronominal clitics.

(1) aux dat acc (s)e

As in SC, the third person singular auxiliary *e* ‘is’ is exceptional in that it follows pronominal clitics. The third person plural auxiliary *se* in Macedonian exhibits the same behavior. I will show below that the exceptional behavior of the auxiliary clitics in question can be accounted for in essentially the same way as the exceptional behavior of SC *je* ‘is’, discussed in section 3.2. However, I will start the investigation of Bulgarian and Macedonian clausal clitic systems by examining the behavior of pronominal clitics in these languages, starting with Bulgarian. The discussion will be confined to issues that are directly relevant to our current theoretical concerns. The central issue will be PF movement or, more generally, the possibility of PF affecting word order, since some of the strongest arguments for the existence of PF movement that can be found in the literature are based on Bulgarian and Macedonian cliticization. We will also be concerned with the directionality of head adjunction. Cliticization in the languages in question is standardly assumed to involve extensive rightward head adjunction, which is disallowed in Kayne’s (1994) system.

There is a vast amount of literature, especially recent literature, on clausal cliticization in Bulgarian and Macedonian (see Alexander 1994, Alexandrova 1997, Avgustinova 1994, Berent

1980, Caink 1998, Čašule 1997, Dimitrova-Vulchanova 1995, Dimitrova-Vulchanova and Hellan 1999, Ewen 1979, Franks 1998a, Franks and King 2000, Legendre 1999, 2000, Penčev 1993, Rå Hauge 1976, Rivero 1997, Rudin 1997, Tomić 1996a, 1997, 1999a, 2000, among many others). The discussion in this chapter will be biased toward the works and analyses that are directly relevant to our current theoretical concerns. In particular, the emphasis will be on the works arguing for the possibility of PF movement on the basis of Bulgarian and Macedonian cliticization. I will not be able to devote due attention to the works that do not directly deal with this issue.

The goal of this chapter is not to come up with a definitive analysis of clausal cliticization in Bulgarian and Macedonian, ruling out all potential alternatives. In fact, I do not believe that we are in a position to do this given our current understanding of the clausal structure of these languages, which is still quite rudimentary. Instead, a number of different options for clitic placement in Bulgarian and Macedonian will be explored in an attempt to shed light on our main theoretical concerns.

4.1. PRONOMINAL CLITICS

Bulgarian clitics are enclitics. In our terms, they are lexically specified as suffixes. As a result, they can never be found in sentence-initial positions. The following constructions illustrate basic facts concerning pronominal clitic placement in Bulgarian:

- (2) a. Petko *mi go* dade včera.
 Petko me.dat it.acc gave yesterday
 ‘Petko gave it to me yesterday.’
- b. Včera Petko *mi go* dade
 c. Včera *mi go* dade Petko.
 d. *Petko *mi go* včera dade.
 e. **Mi go* dade Petko včera.
 f. Dade *mi go* Petko včera.
 g. če Petko *mi go* dade včera.
 that Petko me.dat it.acc gave yesterday

The above examples show that Bulgarian pronominal clitics are enclitics, though not second position enclitics, as indicated by (2g), which is unacceptable in SC, and the fact that the adverb in (2b) does not have to be followed by a pause, in contrast to SC. Pronominal clitics in Bulgarian

are adjacent to the verb.¹ They precede the verb unless preceding the verb would result in a violation of their suffixal requirement. In that case they follow the verb. The above examples indicate that syntactic and prosodic requirements of Bulgarian clitics can be independent. Bulgarian clitics syntactically depend on the verb. However, phonologically, they attach to the verb only in

¹For some speakers, some adverbs can intervene between a clitic and the verb. Thus, Iliyana Krapova (personal communication) reports the judgments in (i). (See Avgustinova and Oliva 1991, Franks and King 2000:237, 290, Legendre 2000, Oliva 1998, and especially Krapova 1997, 1999 for discussion of the intervention effect with auxiliary clitics. Apparently, in some cases the effect is more difficult to obtain with pronominal clitics.)

- (i) a. Ivana e veče pročela knjigata.
Ivana is already read book-the
'Ivana has already read the book.'
- b. ??Ivana mi veče dade knjigata.
Ivana me.dat already gave book-the
'Ivana already gave me the book.'
- c. Ti ne si go ošte napisala.
you not are it still written
'You have not yet written it.'
- d. ?Az sŭm go veče pročela.
I am it already read
'I have already read it.'

According to Krapova (1997, 1999), only a few short adverbs (the only adverbs Krapova gives are *veče* and *ošte*) can intervene between a clitic and the verb. Thus, (iia-c) are unacceptable. ((iia,c) are from Krapova 1999, and (iib) from Krapova 1997. The sentences are acceptable without the adverbs.)

- (ii) a. *Nie sme vinagi zaštitavali demokracijata.
we are always defended democracy-the
'We have always defended democracy.'
- b. *Ivana e nabŭrzo pročela knjigite.
Ivana is quickly read books-the
'Ivana has quickly read the books.'
- c. *Az sŭm napŭlno bila zabravila za nego.
I am completely been forgotten about him
'I have completely forgotten about him.'

I assume that the intervening adverbs are incorporated into the verb, sort of clitics and therefore a part of the clitic+verb cluster. (Avgustinova and Oliva 1995 and Franks and King 2000:103-104 observe that Czech also has clitic adverbs that are part of the clitic cluster. See also Rivero 1994 for discussion of adverb incorporation in several languages of the Balkans and Dobrovie-Sorin 1994 for discussion of adverbial clitics in Romanian.) In fact, the adverbs in question are unstressed when intervening between a clitic and the verb. Notice also that my other informants find all constructions with intervening adverbs, including (ia-d), completely unacceptable. The variation in judgments is not unexpected under the incorporation analysis since under this account, we are dealing with a lexically specified process.

Due to their unclear status, I will not discuss constructions such as (ia-d) in any detail below. However, the reader can verify that such constructions can be easily accounted for in the system developed below. Depending on whether pronominal clitics are assumed to start within AgroP or VP (both possibilities are considered below), the adverbs in (ia-d) would be analyzed as being generated either outside of VP, as is standardly assumed, or within VP, as in Larson (1988). (The clitics-in-VP analysis, but not the clitics-in-AgroP analysis would require adopting Larson's analysis of adverbs.)

constructions where the verb is sentence initial. Let us see now how this state of affairs can be accounted for.

Rudin (1997) and Rudin et al. (1999), both of which adopt the mechanism of Prosodic Inversion, assume that Bulgarian pronominal clitics are generated in independent head positions, namely Agr phrases, with the verb undergoing head movement picking up clitics on its way up by right-adjointing to them. The head adjunction configuration captures the fact that non-clitics cannot intervene between the pronominal clitics and the verb even when the verb does not host the clitics phonologically, as shown in (2d) (see also the discussion of (16)-(17) below). We will also see below that when the verb moves to a higher head, it carries clitics along, which is also readily captured under the head adjunction analysis. Rightward adjunction accounts for the correlation between the linear order of the elements forming the complex head and their structural height prior to head adjunction, the highest element prior to the adjunction being first in the linear order. (The underlying assumption here is that Agr_{ioP} is higher than Agr_{doP}.)

- (3) Petko [_{AGR_{ioP}} mi [_{AGR_{doP}} go [_{VP} dade...
 Petko [_{AGR_{ioP}} mi [_{AGR_{doP}} go+dade [_{VP} t...
 Petko [_{AGR_{ioP}} mi+go+dade]_{AGR_{doP}} t [_{VP} t ...

Under the Rudin (1997)/Rudin et al. (1999) analysis, if there is lexical material in front of the clitics to which they can attach nothing happens to the structure in PF in terms of word re-ordering. If there is no lexical material in front of the clitics, Prosodic Inversion applies, placing the clitics after the first stressed word, namely the verb, so that the suffix requirement on clitics can be satisfied. (2f) is derived in this way. (The Prosodic Inversion analysis was originally proposed for Bulgarian by Halpern 1992.)

- (4) Syntax: [mi+go+dade]
 Phonology: dade mi go

An interesting piece of evidence that phonology is indeed responsible for the V-clitic order is provided by Macedonian.

Macedonian clitics behave like Bulgarian clitics in some respects. Like Bulgarian clitics, Macedonian clitics are verbal clitics, i.e., they must be adjacent to a verb. However, in contrast to Bulgarian clitics, which are enclitics and therefore cannot occur sentence initially, Macedonian clitics are proclitics (see, however, section 4.5). In sharp contrast to Bulgarian clitics, Macedonian clitics can occur sentence initially. Thus, (2e) is acceptable in Macedonian, as shown in (5e).

- (5) a. Petko *mi go dade včera*.
 Petko me.dat it.acc gave yesterday

- ‘Petko gave me it yesterday.’
- b. Včera Petko *mi go* dade
 - c. Včera *mi go* dade Petko.
 - d. *Petko *mi go* včera dade.
 - e. *Mi go* dade Petko včera.
 - f. *Dade *mi go* Petko včera.
 - g. deka Petko *mi go* dade včera.
that Petko me.dat it.acc gave yesterday

Significantly, (2f) is unacceptable. This strongly indicates that the motivation for the V-clitic order is phonological, namely supporting a clitic. Since Macedonian clitics are prefixes, there is no need for the verb to invert with clitics in constructions in which clitics are found sentence initially. The contrast in the acceptability of (2e-f) in Bulgarian and Macedonian, Bulgarian accepting (2f) but not (2e), and Macedonian accepting (2e) but not (2f), provides strong evidence that placing a verb in front of a clitic is a last resort strategy invoked when phonological properties of the clitic cannot be otherwise satisfied. (This holds for finite clauses. For discussion of non-finite clauses, see section 4.5.) This can be interpreted as indicating that PF places the verb in front of clitics, which is the centerpiece of the Prosodic Inversion analysis. Under this analysis, the output of the syntax for both (2e) and (2f) in both Bulgarian and Macedonian has the order clitic-V, with the verb and the clitics adjoined. Since Bulgarian clitics are lexically specified as suffixes, Prosodic Inversion applies in PF placing the clitics after the verb, thus satisfying the phonological requirement on the clitics. Since Macedonian clitics are prefixes, there is no need for Prosodic Inversion to apply in (5f). The Last Resort Condition then prevents it from applying.

The Prosodic Inversion analysis thus straightforwardly accounts for the data in (2) and (5). However, in chapter 2 we have seen a number of arguments against the mechanism of Prosodic Inversion. In light of these arguments, it would be desirable to account for the facts under consideration without invoking Prosodic Inversion. The question is whether this can be done. Notice also that the above analysis involves rightward head adjunction, which, if Kayne (1994) is right, should not exist. As a result, a question also arises whether the Bulgarian and Macedonian data under consideration can be brought in line with Kayne’s (1994) system by eliminating the appeal to rightward head adjunction.²

²It is worth pointing out in this context that Chomsky (1995:340), who adopts the gist of Kayne’s system, does leave a loophole for the possibility of rightward head adjunction. (For much relevant discussion, see also Bošković 1997a.) This means that adopting the rightward head adjunction analysis does not necessarily invalidate Kayne’s whole system.

One could also easily devise a system in which the direction of movement and the direction of adjunction would be separated by exempting the internal structure of adjunction complexes (both head and phrasal) from the LCA. In such a system all movement would be taking place to the left, but the final landing site in the case of adjunction could be either to the left or to the right of the host. (Only ordering within the complex itself would be exempt from the LCA.) In some but not all cases, the system would allow both rightward head adjunction and

Accounting for the data under consideration without an appeal to Prosodic Inversion is actually quite straightforward under the approach to the pronunciation of non-trivial chains adopted in chapter 3. This approach not only allows us to account for the facts under consideration without invoking Prosodic Inversion, but also manages to capture the fact that the phonology is responsible for the V-clitic order in Bulgarian.

Suppose that a copy of pronominal clitics is present both above and below the verb. (I discuss the exact location of the relevant elements below.) Let us furthermore assume that, as usual, the head of the chain created by clitic movement is pronounced except when the pronunciation of the head of the chain would result in a PF violation (see Franks 1998a and chapter 3 for extensive discussion). In that case, the tail of the chain is pronounced, provided that the pronunciation of the tail of the chain helps satisfy the relevant PF requirement(s). This approach to the pronunciation of non-trivial chains 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. If there is lexical material preceding the clitic in its raised position, the head of the chain of clitic movement has to be pronounced.

- (6) a. X clitic V *clitic*
 b. *clitic* V clitic

Since in Macedonian nothing goes wrong in PF if we pronounce the head of the clitic chain, we always have to pronounce the head of the clitic chain, located above the verb. As a result, the V-clitic order is underivable in Macedonian.

- (7) (X) clitic V *clitic*

The contrast in the acceptability of (2e-f) 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. This is accomplished without invoking Prosodic Inversion by using a mechanism which is needed independently, as demonstrated in chapter 3, and which, in contrast to Prosodic Inversion, does not cause undesirable consequences elsewhere in the grammar. I conclude therefore that the Bulgarian data under consideration can be accounted for in a principled way without invoking Prosodic Inversion and that they therefore do not provide evidence for the existence of Prosodic Inversion or, more generally, PF movement (see also Legendre 1999, 2000 for an Optimality Theory perspective on the issue under consideration).

rightward phrasal adjunction. An example of the latter could be Rudin's (1988) rightward adjunction to SpecCP analysis of Bulgarian multiple wh-fronting, where the direction of movement (not counting the final adjunction to SpecCP) is to the left.

Let us now flesh out the pronounce-a-copy analysis by determining the precise location of the relevant elements in the syntax. We could decide essentially to maintain the above analysis of Bulgarian clitics simply substituting Prosodic Inversion with the-pronunciation-of-lower-copies mechanism. Dative and accusative clitics would then still be generated in their respective Agr phrases, and the verb would move to them through rightward head adjunction. We would need to add one further movement of the *mi go dade* complex, which will provide lower clitic copies. I leave open here the landing site of this movement. The possibilities would be a higher V node (under a Koizumi 1995 split VP-type analysis) or a head in the split I (Tense or even something lower than Tense. For discussion of split I, and more generally, clause structure in several languages of the Balkans, see Rivero 1994). The final syntactic structure for constructions such as (2a) would then be very similar to the final syntactic structure under the Prosodic Inversion analysis, which is represented in (3). (I add copies to the structure for the pronounce-a-copy analysis. All lower copies are deleted in PF.)

(8) Petko *mi+go+dade* [_{AGRiOP} *mi+go+dade* [_{AGRdOP} *go+dade* [_{VP} *dade*]]]

This structure can give us all the data in (2) without appealing to Prosodic Inversion, given the mechanism of the pronunciation of lower copies. Thus, the verb initial (2f), which under the Prosodic Inversion analysis involves PF movement, is derived by applying the following copy-deletions.

(9) ~~*Mi+go+dade*~~ [_{AGRiOP} *mi+go+dade* [_{AGRdOP} ~~*go+dade*~~ [_{VP} *dade*]]]

Since the pronunciation of the highest copies of the pronominal clitics would lead to a PF violation, the clitics are pronounced in a lower position. No PF movement is then needed to derive V-initial clitic structures in Bulgarian. As for Macedonian, since Macedonian clitics are proclitics, they can be, and therefore must be, pronounced in the highest position. As a result, they correctly always precede the verb.

The relevant constructions can also be derived without rightward head adjunction, in accordance with Kayne's (1994) LCA. Instead of right-adjoining the verb to the clitics we could left-adjoin the clitics to the verb. There are two ways of instantiating this analysis. Suppose that instead of being generated in the head position of Agr phrases, pronominal clitics are generated in the specifier of Agr phrases (see in this respect the discussion of the phrase structure status of clitics in section 4.2). Clitic+verb complexes would then be formed by left-adjoining the clitics to the verb, instead of right-adjoining the verb to the clitics. As a technical implementation of the adjunction, we can assume that the verb is lexically specified with an Attract all property in the sense of Bošković (1999) for pronominal clitics. (The same could actually hold for auxiliary clitics, but not for the interrogative clitic *li*, see section 4.3.1.) The verb would then attract all

pronominal clitics.³ Assuming that Agr_{io}P is higher than Agr_{do}P, principles of economy of derivation ensure that the result of left-adjoining the clitics to the verb will give us the dative-accusative-verb order, as desired, and not the accusative-dative-verb order. Consider the following structure:

- (10) [_{AGR_{io}P} mi [_{AGR_{io}'} [_{AGR_{do}P} go [_{AGR_{do}'} [_{VP} dade]]]]]]]

Assuming a c-command requirement on overt movement, no clitic can incorporate into the verb until the verb moves out of the VP. When the verb moves to Agr_{io}, the accusative clitic can incorporate into the verb, while the dative clitic still cannot. The dative clitic has to wait for the verb to move to a head position above Agr_{io}. The accusative clitic could in principle undergo incorporation into the verb either before or after V-movement to this higher head position. Notice, however, that the incorporation results in shorter movement if it takes place while the verb is still in Agr_{io}P. Given the economy of derivation requirement that every requirement should be satisfied through the shortest movement possible,⁴ the accusative clitic then has to incorporate into the verb by left-adjoining to it while the verb is still in Agr_{io}P. The dative clitic has to wait for the verb or, more precisely, the accusative clitic+verb complex, to move to a higher head position and then undergoes incorporation into it through left-adjunction.⁵ We derive the correct order dative clitic-accusative clitic-verb. Whether the clitics are pronounced in the raised or base-generated positions depends on whether or not they are preceded by phonologically realized material, as discussed above.

- (11) a. Petko mi+go+dade [_{AGR_{io}P} mi [_{AGR_{io}'} go+dade [_{AGR_{do}P} go [_{AGR_{do}'} dade [_{VP} dade]]]]]]]
 b. ~~Mi~~ go dade [_{AGR_{io}P} mi [_{AGR_{io}'} go+dade [_{AGR_{do}P} go [_{AGR_{do}'} dade [_{VP} dade]]]]]]]

³In Bošković (1999) I show that multiple movement to the same element as a result of an application of the Attract all mechanism generally results in free ordering of elements undergoing the movement. However, this would not happen in the case under consideration as a result of the earliness effect of economy of derivation discussed directly below.

⁴The requirement is responsible for Superiority effects. For example, given the structure in (ia) prior to wh-movement, the requirement in question favors the movement of the first wh-phrase to SpecCP over the movement of the second wh-phrase. The strong +wh-feature of C is checked through shorter movement in (ib) than in (ic).

- (i) a. +wh C John tell who that Mary should buy what
 b. Who did John tell t that Mary should buy what?
 c. *What did John tell who that Mary should buy t?

⁵If multiple adjunction to the same head is not allowed, as argued by Kayne (1994), the dative clitic would actually left-adjoin to the accusative clitic, which is itself left-adjoined to the verb. Notice that Kayne (1994) suggests that clitics do not adjoin to the finite verb. One could, however, quite easily make room for such adjunction to take place in Bulgarian and Macedonian, which seems necessary on empirical grounds, while still maintaining the gist of Kayne's system. (Kayne's suggestion was made based on certain assumptions concerning the LCA and the sub-word level structure that do not seem to be necessary.)

The leftward adjunction account is also compatible with an analysis in which the pronominal clitics start within VP and then incorporate into the verb, the base-generated positions within VP providing the lower clitic copies in (6).⁶ Principles of economy of derivation again ensure the correct word order within the pronominal clitics+verb cluster. Following Larson (1988), let us assume that double object constructions involve two VP shells, with the verb moving from the lower VP shell to the higher VP shell, and that the dative is located above the accusative at S-Structure. Slightly departing from Larson and following Marantz (1993), I assume that the dative is generated in the specifier and the accusative in the complement of the lower VP shell. We then have the following abstract structure for the constructions under consideration prior to V-movement to the higher VP:

(12) [_{VP} Petko V [_{VP} mi [_V dade go]]]

Assuming again a c-command requirement on overt movement, the dative clitic cannot incorporate into the verb until the verb moves to the higher VP shell since the verb does not c-command the dative clitic in its base-generated position. On the other hand, the accusative clitic can incorporate into the verb either before or after V-movement. Since the former option results in a shorter movement, it is forced by economy of derivation. The accusative clitic then has to left-adjoin to the verb while the verb is still within the lower VP shell. On the other hand, the dative clitic has to wait for the verb or, more precisely, the accusative clitic+verb complex, to move to the higher VP and then left-adjoints to it. Depending on whether or not the clitics are preceded by phonologically overt material in their raised position, they are pronounced either in the raised or the lower position.⁷

⁶Both Bulgarian and Macedonian allow clitic doubling. Clitics are sometimes assumed not to originate within VP in clitic doubling languages (see Alexandrova 1997, Franks 1998a, Rudin 1997, Spencer 1991:388, and Tomić 1996a, among others, with respect to the languages under consideration), θ -positions within VP being assumed to be filled by doubled NPs. However, Aoun (1999) argues convincingly that doubled NPs are not located in θ -positions within VP, which leaves these positions available for clitics. (Aoun analyzes doubles as subjects of predication.) Hurtado (1984) also argues that doubles are not located in VP-internal θ -positions. (He treats them as right-dislocations.) Several other authors have suggested that doubles are appositives or adjuncts (see Boas 1911, Aoun 1982, Saito 1985, Borer 1986, Rosen 1989, Baker 1991, Uriagereka 1995, Torrego in preparation). This type of analysis can also be easily made compatible with the clitics starting within VP+pronunciation of a lower copy analysis, especially if we adopt Larson's (1988) or Martin and Uriagereka's (1999) approach to adjuncts, given the system developed below. (I thank Cedric Boeckx for helpful discussion of clitic doubling.)

⁷There is actually another option for the clitics-starting-within-VP analysis which involves leftward clitic and verb head movements to Agr_{IO} and Agr_{DO}. If the clitics and the verb all left-adjoin to the heads of relevant Agr phrases, the relevant structures with all necessary copies can also be derived if the verb moves to Agr heads before the clitics. (In this respect, see Chomsky's 1993 analysis of object shift in Icelandic.)

Notice that the reason why more than one analysis of the same clitic data is at times presented in this chapter is that we have no conclusive way of eliminating all but one analysis of the relevant data at this point. I leave this task for future research.

- (13) a. [_{VP} Petko mi+go+dade [_{VP} mi [_V go+dade go]]]
 b. [_{VP} Petko mi+go+dade [_{VP} ~~mi~~ [_V ~~go+dade~~ go]]]

We see here a very interesting consequence of economy of derivation, which requires that every syntactic requirement be satisfied through the shortest movement possible. Economy of derivation imposes sort of an earliness requirement on the movement of X to Y if Y is to undergo further movement to Z. X must move to Y as soon as possible, in particular, before Y moves to Z. (For more examples of this kind, see Bošković 1997a:154-156, where the earliness effect of economy of derivation on movement is noted.)

In light of the above discussion I conclude that the Bulgarian data in (2), as well as their Macedonian counterparts in (5), can be accounted for without invoking either Prosodic Inversion or rightward head movement.

4.2. AUXILIARY CLITICS

So far I have discussed only pronominal clitics in non-periphrastic constructions. Let us see now what happens in a periphrastic construction containing both a pronominal clitic and an auxiliary clitic. As the Bulgarian constructions in (14) illustrate, in such constructions the auxiliary clitic precedes the pronominal clitic.⁸ The main verb follows both clitics except when no phonologically overt material that can serve as a host for the clitics is available preceding the clitics. In that case, the main verb precedes the clitics. (For ease of exposition I give a construction with one pronominal clitic. The discussion below straightforwardly extends to constructions with more than one pronominal clitic, given the discussion of double object constructions above.)

- (14) a. Ti si go vidjal.
 you are him seen
 ‘You have seen him.’
 b. Vidjal si go.

The Macedonian counterparts of the Bulgarian constructions in (14) are given in (15). It will become obvious during the discussion below that the Macedonian counterparts of the Bulgarian auxiliary clitic constructions discussed in this section can be straightforwardly accounted for in the current system. Hence, I will generally ignore Macedonian in the discussion below.

⁸I focus the discussion in this section on Bulgarian auxiliary clitics that function as enclitics. Bulgarian also has a proclitic auxiliary, the future auxiliary *šte*, whose syntactic and phonological behavior that is directly relevant to our current purposes is rather unremarkable and can be captured quite straightforwardly. (This is not to say that it does not raise any complex questions.) Therefore, for reasons of space I ignore it.

- (15) a. Ti si go videl.
 you are him seen
 ‘You have seen him.’
 b. Si go videl.

Before proceeding with an analysis of (14), it is worth noting that, in contrast to SC clitic clusters, Bulgarian and Macedonian clitic clusters are fortresses that cannot be broken up by syntactic and phonological operations that were shown in sections 2.2.2.2.6 and 2.2.2.2.7 to be capable of breaking up SC clitic clusters. Thus, in contrast to SC clitic clusters, VP deletion, VP fronting, and parentheticals cannot break up clitic clusters in Bulgarian and Macedonian. I illustrate this with respect to Bulgarian. Macedonian patterns with Bulgarian in the relevant respect.

- (16) a. *Te sa ja celunali i nie sme ja ~~celunali~~ (süşto).
 they are her kissed and we are her kissed too
 ‘They have kissed her, and we have too.’
 b. *[Celunala go]_i Maria e t_i.
 kissed him Maria is
 ‘Kissed him, Maria has.’
 c. *Te sa, kakto ti kazah, predstavili gi na Petür.
 they are, as you.dat told introduced them.acc to Peter
 ‘They have, as I told you, introduced them to Peter.’

In fact, the verb is part of the fortress, as indicated by the ungrammaticality of (17a-c) (see also fn. 1, where it is observed that some short adverbs can be part of the clitic+V cluster).

- (17) a. *Te sa ja celunali i nie sme ja ~~celunali~~ (süşto).
 they are her kissed and we are her kissed too
 ‘They have kissed her, and we have too.’
 b. *[Celunala Petko]_i Maria e t_i.
 kissed Petko Maria is
 ‘Kissed Petko, Maria has.’
 c. *Te sa, kakto ti kazah, predstavili Petko na Petür.
 they are, as you.dat told introduced Petko to Peter
 ‘They have, as I told you, introduced Petko to Peter.’

Let us now consider the Bulgarian construction in (14). It is standardly assumed that the accusative+participle complex right adjoins to the auxiliary to account for the fact that the auxiliary, which is assumed to be higher than the accusative+participle complex prior to the

adjunction, precedes the accusative clitic and the participle after the adjunction. Suppose that this is indeed the case. The complex auxiliary+accusative+participle head then moves to Agro. I assume that, as discussed in section 3.2, there is morphological reason for all relevant elements (the auxiliary, the main verb and the accusative clitic) to move to Agro. We then derive the following structure, with all relevant copies shown.⁹

(18) [_{AgroP} Si+go+vidjal [_{AuxP} si+go+vidjal [_{VP} go+vidjal go]]]

If phonologically realized material is available in front of the auxiliary, like the subject in (14a), we can do the preferred pronunciation of the highest copies of all relevant elements. The element preceding the auxiliary clitic can serve as the host for the clitics.

(19) Ti [_{AgroP} si+go+vidjal [_{AuxP} si+go+vidjal [_{VP} go+vidjal go]]]

If no phonologically overt material precedes the auxiliary in its raised position, as in (14b), the following copy-deletions take place in PF, deriving the desired sequence *Vidjal si go*.

(20) [_{AgroP} ~~si+go~~+vidjal [_{AuxP} si+go+vidjal [_{VP} go+vidjal go]]]

The deletions are in accordance with the approach to the pronunciation of non-trivial chains argued for in chapter 3, which allows pronunciation of lower copies if this is necessary to satisfy a PF requirement. The relevant PF requirement in the construction in question is the suffix requirement on the auxiliary and the pronominal clitic. I conclude, therefore, that the constructions in (14) can be derived without employing Prosodic Inversion. The approach to the pronunciation of non-trivial chains argued for in chapter 3 plays a crucial role in the analysis of (14) presented here.

The data concerning double participle constructions argued to provide evidence for Prosodic Inversion by Embick and Izvorski (1997) can also be accounted for without employing Prosodic Inversion. Embick and Izvorski (see also Tomić 1996a) observe the contrast between the Bulgarian (21a) and the Macedonian (21b) and attribute it to the difference in the direction of attachment between auxiliary clitics in Bulgarian and Macedonian. As discussed above, the auxiliary is an enclitic in Bulgarian (see (21c)) but a proclitic in Macedonian (see (21d)). There is

⁹Recall that the accusative+participle complex can be derived through either leftward or rightward adjunction. For ease of exposition I assume here leftward adjunction, in particular, the clitic starting within VP+leftward incorporation into the verb analysis. Some quite straightforward adjustments would need to be made under alternative analyses. (Some of them would involve the exact identity of the landing sites of movements or the hierarchical arrangement of functional projections. It is difficult to be precise about these since it is not clear how the clausal structure should look like in more complex Bulgarian constructions involving complex tenses. The discussion in the text fleshes out only one of the possibilities. However, this should suffice to illustrate *what kind* of movements need to take place under the pronounce-a-copy analysis, the exact identity of the projections in which the movements are taking place being less important here.)

therefore phonological reason for "placing" the participle in front of the auxiliary in Bulgarian, but not in Macedonian. That phonology plays a crucial role here is confirmed by the fact that Bulgarian patterns with Macedonian in the relevant respect when lexical material precedes the auxiliary clitic (see (22a-b)), or when the auxiliary is not an enclitic (see (22c-d)). (21) and (22c-d) are taken from Embick and Izvorski 1997).

- (21) a. *Bila si pročela knjigata.* (Bulgarian)
 been are read book-the
 'You have read the book.'
- b. **Bil si predupreden za tova.* (Macedonian)
 been are warned about that
 'You've been warned about that.'
- c. **Si bila pročela knjigata.* (Bulgarian)
 d. *Si bil predupreden za tova.* (Macedonian)
- (22) a. *Ti si bila pročela knjigata.* (Bulgarian)
 you are been read book-the
- b. **Ti bila si pročela knjigata.*
- c. *Bihte bili arestuvani ot policijata.*
 would been arrested by police-the
 'You would be arrested by the police.'
- d. **Bili bihte arestuvani ot policijata.*

Embick and Izvorski (1997) appeal to Prosodic Inversion to account for the Bulgarian data under consideration. However, the data can be accounted for without invoking PF movement. Given that the participle *bila* head-moves to the auxiliary *si* and that the adjoined complex undergoes further head movement, there is a copy of *bila* that precedes the lowest copy of the auxiliary. If phonologically overt material precedes the highest copy of the auxiliary, the auxiliary is pronounced in the highest position, which means preceding the participle. If no phonologically overt material precedes the auxiliary in its highest position, a copy of the auxiliary following the participle *bila* is pronounced. As for Macedonian, since, being a proclitic, the auxiliary clitic can always be pronounced in the highest position, it must precede *bil*. (The finite auxiliaries in the Bulgarian (22c-d) also can be, and therefore must be, pronounced preceding the participle.)¹⁰

¹⁰Notice that in both languages, the second, thematic participle can precede the auxiliary clitic (see (ia-b)). In fact, the participle can also precede non-clitic auxiliaries (see (ic)), in contrast to the first, non-thematic participle. This indicates that we are dealing here with true syntactic movement, which applies optionally placing the second, thematic participle in front of the finite auxiliary. For discussion of the nature of this movement, see Embick and Izvorski (1997) and Tomić (1997). For discussion of double participle constructions in SC, which might require a different analysis, see Bošković (1997a). (Bošković's 1997a analysis could be modified in the current system, involving pronunciation of lower copies, to involve strictly leftward head adjunction.)

Let us now consider a construction involving the third person singular present tense auxiliary clitic *e* ‘is’, which, as noted above, follows pronominal clitics.

- (23) a. Toj go e vidjal.
 he him is seen
 ‘He has seen him.’
 b. Vidjal go e.

I assume that like SC *je* ‘is’ (see section 3.2), Bulgarian *e* (and the same holds for the third person singular and plural auxiliaries in Macedonian) is subject to a PF constraint requiring it to appear at the right edge of the clitic cluster (i.e., to be the final element within the clitic cluster). Let us first see how (23a) is derived. The construction has the following S-Structure.

- (24) Toj [_{AgroP} e+go+vidjal [_{AuxP} e+go+vidjal [_{VP} go+vidjal go]]]

There is no obvious way to derive the desired sequence *toj go e vidjal* from (24), given what has been said so far. To derive the desired sequence I assume that clause-mate clitics in Bulgarian must be prosodically parsed into the same clitic group. (An alternative is that they form a prosodic constituent which attaches to its host as a unit, a possibility considered with respect to Slovenian clitics in section 3.4.) Furthermore, as discussed in chapter 3, I assume left-to-right scanning when determining which member of a non-trivial chain should be pronounced. (For relevant discussion, see also fn. 30 and Bošković and Franks 1999).¹¹ Ignoring the subject, the first element to consider in (24) is the auxiliary or, more precisely, the auxiliary chain. Obviously, the auxiliary cannot be pronounced in the highest position, since doing this would inevitably lead to a PF violation.¹² The

-
- (i) a. Pročela si bila knjigata. (Bulgarian)
 read are been book-the
 b. Predupreden si bil za tova. (Macedonian)
 warned are been about that
 c. Arestuvani bihte bili ot policijata. (Bulgarian)
 arrested would been by police-the

¹¹As noted in section 3.1.1.1, the direction of scanning could also be determined structurally (higher-to-lower).

¹²We would actually know this only when we “hit” the pronominal clitic. I assume that at this point, we back-track locally and delete the highest copy of the auxiliary clitic. Bošković and Franks (1999) assume a system that does not require back-tracking in the case in question. Bošković and Franks also assume left-to-right scanning. However, they propose that the decision where to pronounce an item is made only when all occurrences of that item (more precisely, all copies of the relevant chain, which is the chain created by movement from Aux to Agro in the case in question) are scanned. Under this analysis, the decision where to pronounce *e* in (24) is made before the decision where to pronounce the pronominal clitic. However, at the point when the decision is made (i.e., when the second copy of *e* is reached), we already know that *e* cannot be pronounced in the highest position without a PF violation

accusative clitic can be pronounced in its highest position without inducing a PF violation. It then has to be pronounced in this position. The pronunciation of the main verb in the highest position leads to a PF violation, namely it prevents the accusative and the auxiliary clitic from being parsed into the same clitic group. The main verb then has to be pronounced in a lower position. A lower pronunciation of the auxiliary clitic then gives us the desired sequence *Toj go e vidjal*, with all PF requirements satisfied.

(25) Toj [_{AgroP} e-go+vidjal [_{AuxP} e+go+vidjal [_{VP} go+vidjal go]]]

Consider now (23b). To derive this construction, we have to slightly complicate the structure and assume that the auxiliary+accusative+V sequence undergoes two head movements. The construction can then be readily derived with all the indicated deletions conforming to the approach to the pronunciation of non-trivial chains adopted here.¹³

(26) [_{XP} e+go+vidjal [_{XP} e+go+vidjal [_{AuxP} e+go+vidjal [_{VP} go+vidjal go]]]]]

It is worth pointing out here that the auxiliary+participle constructions under consideration can also be derived without appealing to rightward head adjunction, in accordance with Kayne (1994). I will demonstrate this with respect to single participle constructions. The discussion can be readily extended to double participle constructions. Consider first how (14a-b) can be derived. Assume that the structure of auxiliary+participle constructions in Bulgarian is the same as the structure of such constructions in SC, discussed in chapters 2 and 3, the only difference being that pronominal clitics incorporate into a verb in Bulgarian, but not in SC. As before, I assume that in auxiliary+participle constructions, AgroP is located above AuxP. The leftward head movement derivation then proceeds as follows. The main verb, which in Bulgarian "carries" the pronominal clitic, left-adjoins to the auxiliary, the complex accusative clitic+V+auxiliary moves to Agro, after which the auxiliary excorporates to move to I, as argued in chapters 2 and 3 with respect to SC. The excorporation is forced by principles of economy: the auxiliary moves alone to I leaving behind the accusative clitic and the verb because there is no reason for the latter to move to I together with the auxiliary, which moves to I for obvious feature-checking purposes. We then derive the following structures, depending on whether or not lexical material precedes the auxiliary. The

since the highest *go* has been scanned.

¹³In dative+accusative constructions, two head movements of the auxiliary+pronominal clitics+V complex have to take place anyway since there are two AgroPs. It is possible that the second empty AgroP is present even in constructions such as (23b). Other possibilities for the second head movement are Part⁰ or AgrpartP⁰, given Friedemann and Siloni's (1997) claim that AgrdoP and the Participle Agreement projection (AgrpartP) should be divorced, and Asp⁰ (see also Collins and Thráinsson 1996, who argue for the existence of an additional functional head in double object constructions). Notice also that given the condition (38) below, no excorporation would take place with any of the head movements in question if they involve feature-checking of the main verb.

indicated deletions are all in accordance with Franks's (1998a) approach to the pronunciation of non-trivial chains, with lower pronunciations taking place only when necessary to satisfy a PF requirement.¹⁴

- (27) a. Ti si [_{AgroP} go+vidjal+si [_{AuxP} go+vidjal+si [_{VP} go+vidjal go]]]
 b. si [_{AgroP} go+vidjal+si [_{AuxP} go+vidjal+si [_{VP} go+vidjal go]]]

It is implied in the account that if an element affected by head movement cannot be pronounced in the highest position, the highest copy that can be pronounced is pronounced. (See in this respect section 3.1.4, where the same conclusion is reached with respect to Romanian clitics.) Franks (1998a) argues that this is the case quite generally. I will assume this to be the case for successive cyclic head movement, but leave open whether this is the case with XP movement. If there is a difference between head and XP movement in the relevant respect, it would not be surprising, given that with successive cyclic head movement, each step of movement results in the formation of a new chain, which is not necessarily the case with successive cyclic XP movement (or, more precisely, wh-movement, the case we have considered in chapter 3).¹⁵

¹⁴Under the excorporation analysis, it is a bit trickier to account for the fact that most adverbs (for some speakers this holds for all adverbs, see fn. 1) cannot intervene between the clitic auxiliary and the participle than under the analysis that does not involve excorporation, on which the participle and the adverb are located in the same head position so that the ungrammaticality of (ia) follows straightforwardly. We will, however, see in section 4.3.1.1 that there is a change in progress in Bulgarian that is turning Bulgarian enclitics into verbal proclitics. This could be responsible for the ungrammaticality of (ia). (Notice that the adverb can intervene between a non-clitic auxiliary and the verb, as shown in (ib).)

- (i) a. *Maria e napŭlno zabravila Petko.
 Maria is completely forgotten Petko
 'Maria has completely forgotten Petko.'
 b. Maria beše napŭlno zabravila Petko.
 Maria was completely forgotten Petko
 'Maria had completely forgotten Petko.'

¹⁵It is worth pointing out that the data concerning the possibility of phonologically realizing lower copies in a series of available copies with XP movements discussed in chapter 3 were not completely clear. As discussed in chapter 3, it appears that lower copies can be phonologically realized with successive cyclic A'-movement, but not with A-movement (see, however, section 4.3.2.3 below for relevant discussion of A'-movement). However, the data concerning the former are not crystal clear (they also involve several potentially interfering factors, see section 3.1.1.2) and the data concerning the latter involve the controversial analysis of Icelandic multiple subject constructions from Chomsky (1995) (see section 3.6). If it turns out that A-movement and head movement indeed pattern differently from A'-movement (i.e. wh-movement) in the relevant respect, it would still be possible to make a principled distinction between the cases that require the pronunciation of the highest copy and those that do not. (Recall that we are dealing here with cases where the head of the chain cannot be pronounced.) It seems plausible to assume that with head movement and A-movement, each step of movement involves feature-checking, whereas with A'-movement successive cyclic movement can be driven by satisfying locality restrictions on movement. (We would then be dealing with a Form Chain operation. See in this respect cases discussed by Barss 1986 and Takahashi 1994, who provide strong empirical evidence for intermediate landing sites of A'-movement where positing any feature-checking relation

The *is* final effect, illustrated by (23a-b), can also be accounted for under the leftward head movement analysis. In fact, this can be done in a somewhat simpler way, since the additional head movement that was needed to account for (23b) under the rightward head movement analysis is not necessary under the leftward head movement analysis. Under the leftward movement analysis, (23a-b) have the following structures, with the indicated deletions taking place in accordance with the current approach to the pronunciation of non-trivial chains.

- (28) a. \bar{e} [_{AgroP} go+vidjal+ \bar{e} [_{AuxP} go+vidjal+ \bar{e} [_{VP} go+vidjal go]]]
 b. Toj \bar{e} [_{AgroP} go+vidjal+ \bar{e} [_{AuxP} go+vidjal+ \bar{e} [_{VP} go+vidjal go]]]

There is an alternative leftward movement analysis.¹⁶ Chomsky (1994) proposes a phrase-structure system that allows for the existence of elements that are at the same time phrases and heads, the prerequisite for the ambiguous XP/X⁰ status of an element X being that X does not branch. (In fact, every non-branching element is automatically both a phrase and a head in Chomsky's 1994 system.) Chomsky mentions clitics as a possible example of such ambiguous XP/X⁰ elements. Bošković (1997a) provides empirical evidence for this position. It is also worth noting that Cardinaletti and Starke (1999) argue convincingly that clitic pronouns have less structure than full pronouns (for relevant discussion, see also Nash and Rouveret 2000). One way of capturing this is by assuming that full pronouns are branching and clitic pronouns non-branching elements. Suppose now that clitics are indeed ambiguous XP/X⁰ elements, which means that they do not branch. (This would be necessary but not sufficient for something to be a clitic.) This assumption has an interesting consequence for auxiliary clitics. Auxiliary clitics such as the one in (29a) can no longer be analyzed as the head of an XP taking another phrase as its complement, as shown in (29b). Instead, we could analyze the XP as headed by a null element, with the auxiliary clitic being located in its specifier, as shown in (29c). Since X rather than the auxiliary clitic is taking a complement, the clitic remains non-branching and, therefore, an ambiguous XP/X⁰ element.

- (29) a. Petko e zaminal včera.
 Petko is left yesterday

is implausible. For some theory-internal arguments for intermediate landing sites, see Chomsky 1986a. Notice also that with head movement and A-movement, relativized minimality, reducible to feature-checking, seems to be the only relevant locality. The situation is much more complicated with A'-movement, whose locality restrictions do not seem to be reducible to relativized minimality and feature-checking.) If head, A-, and A'-movement could indeed be differentiated along these lines we could simply say that in a series of copies in feature-checking positions, the highest copy is pronounced. I emphasize again that the discussion of the issue under consideration is tentative, since the relevant data are not completely clear. I return to the issue, in particular, the pronunciation of A'-chains, in section 4.3.2.3 below.

¹⁶This analysis does not require adopting excorporation.

‘Petko left yesterday.’

b. Petko [_{XP} [_{X'} e [zaminal včera]]]

c. Petko [_{XP} e [_{X'} X [zaminal včera]]]

How do we create an auxiliary+participle head adjunction structure under this analysis? The same way we did it with pronominal clitics. The participle moves to a head position above XP and the auxiliary then left-adjoins to it, in accordance with Kayne’s system. Given that pronominal clitics are generated below auxiliary clitics and given the earliness requirement on head adjunction, which, as discussed above, follows from economy of derivation, the pronominal clitic left-adjoins to the participle before the auxiliary clitic does in (30a), giving the desired auxiliary clitic-pronominal clitic order, as shown in (30b).

(30) a. Ti si go vidjal.

you are him seen

‘You have seen him.’

b. Ti [_{AgroP} si+go+vidjal [_{AuxP} si [_{Aux'} go+vidjal [_{VP} go+vidjal go]]]]

It is easy to verify that all the data discussed above can be readily accounted for under this analysis. (An additional head movement is needed to account for the *is* final effect.) I conclude therefore that the data considered so far can be accounted for under the leftward movement analysis.

We have seen several possible analyses of the data under consideration involving pronunciation of lower copies of movement motivated by PF considerations. The most restrictive analysis is the one that relies on the assumption that clitics are non-branching elements and Kayne’s (1994) LCA, which bans rightward movement. However, at this point it is not possible to conclusively tease apart all the options examined above on empirical grounds.

What is most important from the above discussion for our current theoretical concerns is that, as demonstrated above, once we accept the possibility of pronunciation of lower copies motivated by PF considerations there is no need to invoke PF movement to account for the data concerning Bulgarian and Macedonian clitic placement examined so far. The same holds for rightward head adjunction. The precise instantiation of the pronunciation of lower copies+leftward movement analysis is of less importance here.¹⁷

4.3. *Li*

¹⁷Notice, however, that the data concerning *li*-constructions discussed in section 4.3.1 are somewhat tricky to account for under the excorporation+leftward movement analysis and would require some additional assumptions and several additional movements that are not easy to motivate. The clitics as non-branching elements+leftward movement analysis, however, can handle the data in question straightforwardly.

In this section I discuss clitic placement in constructions involving *li*. In both Bulgarian and Macedonian, *li* is an enclitic generally considered to be an interrogative complementizer.¹⁸ Constructions in which *li* is preceded by a verbal element, such as (31a,c), are interpreted as "unmarked" yes-no questions. Constructions in which *li* is preceded by a (non-verbal) phrase, such as (31b,d), are interpreted as yes-no questions involving contrastive focus on the element preceding *li*.

- (31) a. Čete li knige? (Bulgarian)
 reads Q books
 'Is he/she reading books?'
 b. Knige li čete nejnata majka?
 books Q reads her-the mother
 'Is it books that her mother is reading?'
 c. Čita li knigi? (Macedonian)
 reads Q books
 'Is he/she reading books?'
 d. Knigi li čita nejinata majka?
 books Q reads her-the mother
 'Is it books that her mother is reading?'

Li-constructions provide some of the strongest arguments for the existence of Prosodic Inversion or, more generally, the possibility of PF movement. This holds for both types of *li*-constructions though the PF movement argument is generally made only with respect to the unmarked yes-no question *li*-construction. It is difficult to see how the following *li*-constructions can be accounted for without invoking some kind of PF word re-ordering.¹⁹

- (32) a. Ne ti li go dade?
 not you.dat Q it.acc gave
 'Didn't he/she give it to you?'
 b. Novata li kola prodade?

¹⁸See, however, Izvorski (1993), who places *li* in a head position below C. Penčev (1993) also argues that *li* is not necessarily located under C. See also the discussion below concerning the phrase structure status of *li* under the clitics-as-non-branching-elements analysis.

¹⁹While examples such as (32a) have been widely examined in the literature, examples such as (32b) are almost completely ignored. (Rudin, King, and Izvorski 1998 and Rudin et al. 1999 note the example without discussing its theoretical significance.) Notice that even Franks (1998a), who spends considerable space arguing against Prosodic Inversion, ends up reluctantly adopting a version of Prosodic Inversion because of *li*-constructions, in particular, examples such as (32a). (The mechanism Franks adopts actually does not involve literal PF movement.)

new-the Q car sold

‘Was it the new car that he/she/you sold?’

In (32a), *li* occurs in the middle of what appears to be a complex X^0 -element. In (32b), *li* occurs in the middle of an NP. Rudin et al. (1999) argue that *li* is placed in the middle of the complex X^0 -element in (32a) in the phonology. They analyze the construction as involving syntactic rightward head movement of the complex X^0 -element *ne ti go dade* to *li*. Prosodic Inversion then takes place in the phonology placing *li* after the first stressed word, namely *ne ti*. (The Bulgarian negative marker *ne*, which is itself unstressed, causes the following word to assume stress even if that word is a pronominal clitic which would otherwise remain unstressed.) *Li* thus ends up positioned in the middle of a complex X^0 -element, a situation that appears very difficult to engineer in the syntax, but not, as we have seen, in the phonology.

(33) Syntax: [C li+ne ti go dade]

Phonology: Ne ti li go dade?

As for (32b), the argument for PF movement or, more precisely, Prosodic Inversion, from such constructions is quite straightforward in light of the fact that Bulgarian otherwise does not allow left-branch extraction.

(34) a. *Kakva prodade Petko kola?

what-kind sold Petko car

‘What kind of a car did Petko sell?’

b. cf. Kakva kola prodade Petko?

c. *Novata prodade Petko kola.

new-the sold Petko car

‘The new car, Petko sold.’

d. cf. Novata kola prodade Petko.

The ungrammaticality of (34a,c) appears to provide strong evidence against analyzing (32b) as involving syntactic left-branch extraction of the element preceding *li*. In fact, (32b) seems underivable in the syntax in light of the ungrammaticality of (34a,c). On the other hand, the phonology can easily derive (32b) provided that the syntax places the NP *novata kola* right after *li*. Prosodic Inversion would then apply in the phonology, placing *li* in the middle of the NP in question or, more precisely, after the first stressed word of the NP, which is *novata*.

(35) Syntax: li novata kola prodade?

Phonology: Novata li kola prodade?

In the next section I will show that contrary to what is standardly assumed and in spite of what we have seen above, *li*-constructions do not involve any kind of PF movement, thus removing one of the strongest arguments ever offered for the existence of PF movement. I will first discuss the unmarked yes-no question *li*-construction, and then turn to the focus *li*-construction.

4.3.1 Clitic placement in unmarked yes-no questions involving *li*

I start by examining unmarked yes-no question *li*-constructions that do not contain a negative marker. Consider (36).

- (36) a. *Go vidja li? (Bulgarian)
 him saw Q
 ‘Did he/she/you see him?’
 b. Vidja li go?
 c. Go vide li? (Macedonian)
 him saw Q
 ‘Did he/she/you see him?’
 d. *Vide li go?
 e. *Ti go dade li? (Bulgarian)
 you.dat it.acc gave Q
 ‘Did he/she give it to you?’
 f. Dade li ti go?
 g. Ti go dade li? (Macedonian)
 you.dat it.acc gave Q
 h. *Dade li ti go?

Rudin et al. (1999) (see also King 1996, Izvorski, King, and Rudin 1997, and Rudin, King, and Izvorski 1998) derive the above constructions by right-adjoining the complex X^0 -elements *go vidja/go vide* and *ti go dade* to *li*.²⁰ On their analysis, the Bulgarian and Macedonian constructions under consideration have the same syntactic structure:

²⁰Rudin et al. actually also observe that their analysis can be maintained if the complex X^0 -elements move to a head position immediately below *li*, but they appear to endorse the rightward movement analysis. I therefore present their analysis in these terms. However, nothing in the discussion below crucially changes if the alternative analysis Rudin et al. mention in passing is adopted instead. (The reader is also referred to Brown 1999:111 (see also Brown and Franks 1995), who provides a strong argument for head movement to *li* in Russian unmarked yes-no question *li*-constructions.)

- (37) a. [_C li+[go vidja/vide]]...
 b. [_C li+[ti go dade]]...

Recall now that Bulgarian pronominal clitics are enclitics, whereas Macedonian pronominal clitics are unspecified for the direction of attachment. *Li* is an enclitic in both languages. Given this, only *li* has to undergo Prosodic Inversion in (37a-b) in Macedonian. Since Macedonian pronominal clitics can attach to the following element there is no need for them to undergo Prosodic Inversion. Prosodic Inversion is then disallowed in this case. We thus correctly derive (36c,g). (36d,h) are ruled out due to an improper (that is, unnecessary) application of Prosodic Inversion.

Consider now the Bulgarian constructions in (36). Since both *li* and the pronominal clitics are specified as enclitics in Bulgarian they all have to undergo Prosodic Inversion, which places them following the verb in (37a-b). (Recall that Rudin et al. assume that Prosodic Inversion affects the whole clitic cluster, thus preserving the order of clitics within the cluster.) This gives us (36b,f). (36a,e) are ruled out because the suffix requirement on the pronominal clitics cannot be satisfied.

Before proceeding, let me point out that a question arises as to why the whole complex X^0 -element moves to *li*. It seems implausible that there is a feature-checking motivation for both the verbal element and the pronominal clitics to move to *li*. (The question becomes even more serious in constructions discussed below, where the X^0 -element moving to *li* is even more complex.) Assuming that the verb is involved in feature-checking with *li*, a question arises why the verb does not excorporate out of the complex X^0 -element and move alone to *li*, leaving the pronominal clitics behind in accordance with the economy account of excorporation. (If the verb moved alone the movement would carry less material and therefore be more economical.) To prevent excorporation in the case under consideration, I adopt the condition in (38), which blocks excorporation in the case we are considering.²¹

(38) The Excorporation Condition

A phonologically non-deficient element Y cannot excorporate out of a complex X^0 -element W if W contains a phonologically deficient element.

²¹Phonological deficiency in (38) may have a syntactic correlate, in which case it would be restatable in terms of a syntactic property. (For some relevant discussion, see Cardinaletti and Starke 1999 and section 4.2. One possibility is that the phonologically deficient element in (38) is an element that does not project and the phonologically non-deficient element an element that does project.)

Notice that the condition in (38) prevents excorporation of the modal from the modal+*n't* complex in (i), which contrasts with (ii), where the negative marker cannot move together with the modal. (If phonological deficiency from (38) were to be restated in terms of a syntactic property *not* and *n't* would have to have a different structure in the syntax. See in this respect the discussion of the Bulgarian clitic negation in section 4.3.1.1.)

- (i) a. Can't John go there?
 b. *Can John n't go there?
 (ii) a. Can John not go there?
 b. ?*Cannot John go there?

Given (38), the verb cannot excorporate from the complex X^0 -element containing pronominal clitics in order to move alone to *li*.

The Prosodic Inversion+rightward head movement analysis bolstered by the condition in (38) gives us a principled account of both the Bulgarian and the Macedonian data in (36). Recall, however, that in chapter 2 we have seen a number of arguments against the existence of Prosodic Inversion from SC clitic placement, which led us to reject the mechanism of Prosodic Inversion. In light of those arguments, it would be desirable to account for the Bulgarian and Macedonian data under consideration without appealing to Prosodic Inversion. Below I will show this is indeed possible; the Bulgarian and Macedonian data under consideration can be derived without appealing to Prosodic Inversion or any kind of PF movement. Furthermore, I will show that no appeal to rightward head movement is necessary once we allow for the possibility of pronunciation of lower copies of non-trivial chains motivated by PF considerations.

Following Rudin et al. (1999), I assume that the complex X^0 -elements *go vidja/vide* and *ti go dade*, formed in the manner discussed above, head-adjoin to *li* in both the Bulgarian and the Macedonian (36). However, I crucially depart from Rudin et al. in assuming that the movement involves left-adjunction to *li*, instead of right-adjunction, in accordance with Kayne's LCA. The movement leaves behind a copy. The Bulgarian and Macedonian constructions under consideration then have the same structure in the syntax:

- (39) a. [_C [go vidja/vide]+li] go vidja/vide?
 b. [_C [ti go dade]+li] ti go dade?

The above constructions correspond to what we actually get in Macedonian. No PF violation occurs in (39) in Macedonian if we do the preferred pronunciation of the head of the movement-to-*li* chain. The element in question then has to be pronounced in its raised position.²²

- (40) a. [_C [go vide]+li] ~~go vide~~?
 b. [_C [ti go dade]+li] ~~ti go dade~~?

The Macedonian constructions in (36) are thus straightforwardly derived under the left-adjunction analysis. How about the Bulgarian constructions? Bulgarian pronominal clitics being enclitics they cannot be pronounced in their raised position in (39) without inducing a PF violation. Since the pronominal clitics are immediately preceded by an I-phrase boundary in their raised position, their suffix requirement cannot be satisfied. (Embedding the constructions would not help here since the clitics would still be immediately preceded by an I-phrase boundary. Recall that, as argued in

²²Notice that, as discussed below, *li* is very different from other Macedonian clitics. Whereas Macedonian clitics discussed in sections 4.1 and 4.2 are verbal proclitics, *li* is a second position enclitic. I assume that, as a result of this difference, *li* does not have to be phonologically parsed together with other clause-mate clitics.

chapter 2, I-phrase boundaries block cliticization.) The PF problem can be resolved if the pronominal clitics are pronounced in a lower position. The verb still has to be pronounced in the highest position, where it can serve as the host for *li* and the pronominal clitics. We thus derive the desired sequences *vidja li go* and *dade li ti go*, as shown in (41).

- (41) a. [_C [~~g~~o vidja]+li] go vidja?
 b. [_C [~~t~~i-~~g~~o dade]+li] ti go dade?

Before proceeding, a note on how the structures under consideration would be analyzed under the clitics-as-non-branching-elements analysis. Under this analysis, *li* could be located within a projection that is the complement of C, call it FP, which is in fact what Izvorski (1993) argues for Bulgarian *li* and Rudnitskaya (2000) for Russian *li*. (For them, FP is a Focus Phrase.)²³ However, in contrast to the Izvorski/Rudnitskaya analysis, where *li* is located in the head of FP, *li* would be located in the specifier of FP. *Go vidja/vidje* and *ti go dade* would first adjoin to F and then would move to left-adjoin to *li*.²⁴ I leave open whether the whole complex would then move to C, as argued in Rudnitskaya (2000) (though not Izvorski 1993). If the movement were to take place, it could be either overt or covert. Another possibility is that *li* is located in the Spec of CP with *go vidja/vidje* and *ti go dade* adjoining to C and then left-adjoining to *li*.²⁵ Finally, the third option is that *li* is located in SpecFP and that *go vidja/vidje* and *ti go dade* adjoin to C, moving past *li*. The crucial part of all of these options is that *go vidja/vidje* and *ti go dade* move in front of *li*, in contrast to the Rudin et al. analysis, where the complex heads follow *li* in the syntax. The exact instantiation of the movement-in-front-of-*li* analysis does not have much bearing on our current concerns, which is to show that the Bulgarian and Macedonian constructions under consideration can be derived without invoking either PF movement or rightward syntactic movement once we allow for the possibility of pronunciation of lower copies of movement motivated by PF considerations. Therefore, I will proceed by simply assuming the adjunction-to-*li* analysis, however it is to be exactly instantiated. I will also continue to gloss *li* as Q.

Returning now to (41), notice that the derivations in (41a-b) are in accordance with the approach to the pronunciation of non-trivial chains argued for in chapter 3. All elements that can

²³See also Legendre (1999, 2000) for an optimality-theoretic account that locates *li* below C. Penčev (1993) also argues that *li* does not have to be located under C.

²⁴The attractor would here be *li*, in contrast to the case of pronominal clitics, where the attractor is the verb, as discussed above. As a result of the lexically specified attraction properties, pronominal clitics are attracted by the verb, whereas the verb (i.e. the complex head containing the verb) is attracted by *li*.

²⁵Under this analysis, the element preceding *li* in the focus *li*-construction could be located in the higher SpecCP, or we could adopt CP Recursion, with *li* and the element preceding it being located in the specifiers of different CPs. See, however, section 4.3.2.4 for a new analysis of the focus *li*-construction, where the issue of where *li* is located in the syntax of such constructions becomes trivial.

be pronounced in their highest position without a PF violation are pronounced in the highest position. The elements that cannot be pronounced in the highest position without inducing a PF violation are pronounced in a lower position. The interesting thing about the derivation under consideration (the same actually holds for several derivations from sections 4.1 and 4.2) is that one chain is pronounced in more than one position. One part of the chain is pronounced in the head position, and one part of it is pronounced in a lower position. Thinking of this situation in terms of copy deletion, in Nunes's (1999) terms we are dealing here with scattered copy deletion. Nunes observes that there is a sense in which scattered deletion is less economical than full deletion. Consider, for example, the following abstract case, with two Xs forming a chain.

(42) $[_x Y Z] ..W.. [_x Y Z]$

Recall that, as discussed in chapter 3, according to Nunes (1995, 1999) the pronunciation of the chain X in both the raised and the lower position would lead to a conflicting ordering under the LCA and is therefore blocked. (Y and Z would have to precede W by virtue of the higher X c-commanding W, and they would have to follow W by virtue of the lower X being c-commanded by W.) The conflict is resolved if Y and Z are pronounced only once, which can be achieved through PF copy deletion. There are several possibilities here: we can delete either the higher or the lower X (putting aside for the moment the preference for the pronunciation of the highest copy), or we can delete Y in one copy and Z in the other copy.

(43) a. $[_x \cancel{Y Z}] ..W.. [_x Y Z]$
 b. $[_x Y Z] ..W.. [_x \cancel{Y Z}]$
 c. $[_x Y \cancel{Z}] ..W.. [_x Y Z]$
 d. $[_x \cancel{Y} Z] ..W.. [_x Y \cancel{Z}]$

In (43a-b), the operation of PF copy deletion applies only once, deleting the constituent X. In (43c-d), on the other hand, it applies twice. Full copy deletion thus appears to be more economical than scattered deletion. Based on this, Nunes (1995, 1999) concludes that full copy deletion should be favored over scattered deletion. This conclusion does not affect the scattered deletion derivation of the Bulgarian constructions in (36b,f) proposed above since scattered deletion is the only possibility there (see Ćavar and Fanselow 1997 and Wilder 1996 for two more potential instances of scattered deletion). Given the structure in (39), (36b,f) cannot converge in PF if we do full copy deletion of either the higher or the lower copy created by movement to *li*. Depending on which copy is deleted, either *li* or the pronominal clitics will not be properly supported in PF. In essence, we will end up with a stranded affix. It seems natural to assume that constructions containing a stranded affix do not converge in PF. As demonstrated above, the constructions under consideration can converge in PF if we do scattered deletion. Since a derivation X can block a

derivation B via economy only if it results in a convergent structure, the full deletion derivation cannot block the scattered deletion derivation in the cases under consideration. The constructions under consideration then provide evidence that scattered deletion is possible in natural language in an appropriate context. Notice also that scattered deletion provides very strong evidence for the copy theory of movement. Scattered deletion structures provide evidence that what is left behind by movement has internal structure, which is straightforwardly captured under the copy theory of movement, but not under the trace theory of movement. While it might be possible to handle the cases involving the pronunciation of lower members of chains from chapter 3 under the trace theory of movement provided some additional assumptions are adopted, it is very difficult to see how the scattered deletion cases discussed above can be handled under the trace theory of movement. The trace theory cannot ensure that the element left behind by movement to *li* has the necessary internal structure.

The original evidence Chomsky (1993) provided in favor of the copy theory of movement involved the interpretation of lower members of chains, i.e., it came from the LF interface. Now we also have evidence for the copy theory of movement concerning the pronunciation of lower members of chains, i.e. the PF interface. It seems to me that the pronunciation evidence for the copy theory of movement is much stronger than the interpretation evidence. Alternative accounts can be easily devised for the interpretation evidence. It is much more difficult to devise a principled alternative to the copy theory account of the pronunciation evidence.

Returning now to Bulgarian and Macedonian *li*-constructions, let us see how more complex constructions involving auxiliary clitics in addition to pronominal clitics can be handled under the current account. Consider the data in (44), taken from Rudin et al. (1999):

- (44) a. *Si mu (gi) dal li parite? (Bulgarian)
 are him.dat. them.acc given Q money-the
 ‘Have you given him the money?’
 b. Dal li si mu (gi) parite?
 c. Si mu gi dal li parite? (Macedonian)
 are him.dat. them.acc given Q money-the
 ‘Have you given him the money?’
 d. *Dal li si mu gi parite?

We again see opposite judgments for Bulgarian and Macedonian. In spite of that, Rudin et al. argue that the Bulgarian and Macedonian constructions have the same syntactic structure, the differences between the two languages stemming from different phonological properties of their clitics. I will also argue for this position. Under Rudin et al.’s Prosodic Inversion+rightward movement analysis, the above constructions have the structure shown in (45) in the syntax. Prosodic Inversion then applies placing the clitic cluster *li si mu gi* after the participle in Bulgarian (each clitic is an enclitic

in Bulgarian) and placing *li* after the participle in Macedonian (only *li* is an enclitic in Macedonian).

(45) [li+[si mu gi dal]]?

Under the current analysis, the complex head *si mu gi dal* left-adjoins to *li* instead of right-adjoining to it. The movement leaves behind a copy. The Bulgarian and Macedonian constructions under consideration then have the following structure in the syntax:

(46) [[si mu gi dal]+ li] si mu gi dal?

As discussed above, Macedonian auxiliary and pronominal clitics are proclitics. *Li*, on the other hand, is an enclitic. Given this, nothing goes wrong in PF if we pronounce *si mu gi dal* in the raised position. This pronunciation is then forced. The Macedonian data in (44c-d) are thus straightforwardly accounted for.

(47) [[si mu gi dal]+ li] ~~si mu gi dal~~?

In Bulgarian, we cannot pronounce *si mu gi dal* in the raised position. The pronunciation in the raised position would result in a violation of the suffix requirement on the auxiliary and the pronominal clitics. The requirement, as well as the suffix requirement on *li*, can be satisfied if we do the following scattered deletion, which, as discussed above, is in accordance with the approach to the pronunciation of non-trivial chains argued for here. (As in the case of (39), scattered deletion is the only possibility here. Furthermore, all elements that can be pronounced in the highest position are pronounced in the highest position.)

(48) [~~si mu gi dal~~+ li] si mu gi ~~dal~~?

It appears, then, that both Rudin et al.'s Prosodic Inversion+rightward adjunction analysis and the pronounce-a-copy+leftward adjunction analysis can account for the basic paradigm concerning clitic placement in the unmarked yes-no question *li*-construction. The question is then whether the two can be teased apart on either conceptual or empirical grounds.

Conceptually, the pronounce-a-copy-analysis is clearly preferable to the Prosodic Inversion analysis since it allows for a more restrictive conception of the grammar. More precisely, it does not require phonological movement and opens up a possibility that the constructions in question can be accounted for in accordance with Kayne's LCA, which imposes a number of restrictions on what kind of operations and structures are possible in human language. Furthermore, the pronounce-a-copy analysis relies on a mechanism which, as demonstrated in chapter 3, is motivated

independently of cliticization in Bulgarian and Macedonian. This is not the case with the Prosodic Inversion analysis, which relies on a mechanism that faces insurmountable problems with respect to cliticization in SC, as shown in chapter 2. Furthermore, as shown above, the pronounce-a-copy analysis provides a principled account of the *is* final effect (the analysis can be readily extended to the *is* final effect in *li*-constructions), which otherwise remains mysterious. In light of all of this, it is obvious that even if no empirical evidence can be found that can conclusively choose one of the two analyses of Bulgarian and Macedonian *li*-constructions, the pronounce-a-copy-analysis should be favored over the Prosodic Inversion analysis. In other words, the pronounce-a-copy-analysis is the null hypothesis.

4.3.1.1 Heavy hosts. Let us now consider clitic placement in negative *li*-questions. The relevant data are given in (49).²⁶

- (49) a. *Ne go vidja li? (Bulgarian)
 not him saw Q
 ‘Didn’t he/she/you see him?’
 b. Ne go li vidja?
 c. Ne go vide li? (Macedonian)
 not him saw Q
 ‘Didn’t he/she/you see him?’
 d. *Ne go li vide?

During the discussion of (49), bear in mind that although itself unstressed (it is a proclitic), the negative marker *ne* causes the following lexically unstressed word to assume stress in Bulgarian. This does not happen in Macedonian, where the negative marker itself is also unstressed. (See, however, the discussion of Macedonian below for a potential complication that does not affect the discussion of the examples under consideration. For recent discussion of prosodic properties of the negative marker in Bulgarian and Macedonian, see Rudin et al. 1999 and Tomić 1999a, b.)

Under the Prosodic Inversion analysis, all the constructions in (49) have the S-Structure in (50).²⁷

²⁶(49a) is acceptable on the irrelevant echo-question reading as an instance of the focus *li*-construction, where the element preceding *li* undergoes phrasal focus movement (see section 4.3.2 for discussion of the focus *li*-construction, which I ignore in this section).

²⁷To account for the fact that the negation, which is assumed to be generated higher than the pronominal clitic and the verb, precedes the pronominal clitic and the verb, Rudin et al. assume that the clitic+verb complex right adjoins to *ne*, after which the whole complex moves to *li*. An alternative involving left adjunction is that the negative marker is located in the specifier of a null negative head in accordance with the clitics-as-non-branching-heads analysis and that it left-adjoins to the clitic+verb complex (more precisely, the verb would attract *ne*) after the complex moves right above the negative head. This kind of analysis was suggested in section 4.1 for several other Bulgarian

(50) [li+[ne go vidja/vide]]?

In PF, Prosodic Inversion applies affecting only *li* in both languages. In Bulgarian, *go*, which assumes stress as a result of it following the negative marker, is the first stressed word following *li*. Therefore, Prosodic Inversion places *li* following *go*. In Macedonian, where the unstressed negative marker does not cause the following word to assume stress, Prosodic Inversion places *li* following the verb, the first stressed element following *li*. Although it technically works, the Prosodic Inversion account of Bulgarian (49b) is not without problems. The whole point of the operation of Prosodic Inversion is to ensure that phonologically weak elements are properly supported in PF. Prosodic Inversion moves such elements the minimal distance necessary for them to satisfy their PF requirements. Given this conception of Prosodic Inversion, it appears that *li* in (50) should be placed in PF following *ne* instead of *go*. The movement that places *li* following *ne* is shorter than the movement that places it following *go*. Notice that this shorter movement satisfies the PF requirement on *li*. *Li* can assume stress as a result of it following *ne*, thus satisfying its PF requirement, just like the pronominal clitic does in (51).

(51) Ne go vidja.
not him saw
'He/she/you didn't see him.'

The derivation in question gives us **ne li go vidja*. Moreover, **ne li go vidja* should block (49b).

Let us now see what happens under the pronounce-a-copy-analysis. Under this analysis, the complex X^0 -element *ne go vidja/vide* left-adjoins to *li*. All the constructions in (49) have the following S-Structure under this analysis.

(52) [ne go vidja/vide+li] ne go vidja/vide?

Consider first what happens in Macedonian. In Macedonian nothing goes wrong in PF if the complex X^0 -element preceding *li* is pronounced in its raised position. (Recall that only *li* must encliticize in Macedonian.) The pronunciation in the raised position is then forced, which gives us (49c).

(53) [ne go vide+li] ~~ne go vide~~?

A problem, however, arises in Bulgarian. It appears that we should be able to pronounce the whole complex X^0 -element *ne go vidja* in the raised position, which would incorrectly give us (49a)

instead of (49b). The problematic derivation results in the following abstract structure, with two stressed elements preceding *li*.

- (54) X... Y... Z li
 +stress +stress

Structures of this kind are quite generally unacceptable in Bulgarian (the same actually holds for Macedonian, see (67) and (69) below), which means that we need a way of ruling out such structures regardless of which of the two analyses considered above is adopted. Consider the following Bulgarian constructions. ((55a,d,e,h) are taken from Rudin et al. 1999. I ignore here the irrelevant focus *li*-construction reading.)

- (55) a. Šte būdeš li gotov?
 will be Q ready
 ‘Will you be ready?’
 b. *Šte būdeš gotov li?
 c. *Šte si li gotov?
 will are Q ready
 ‘Will you be ready?’
 d. Šte si gotov li?
 e. Šte būdeš li napisal pismoto?
 will be Q written letter-the
 ‘Will you have written the letter?’
 f. *Šte būdeš napisal li pismoto?
 g. *Šte si li napisal pismoto?
 will are Q written letter-the
 ‘Will you have written the letter?’
 h. Šte si napisal li pismoto?

The only difference between the *būdeš* and *si* constructions in (55) seems to be phonological. Whereas *būdeš* is stressed, *si* is not stressed.²⁸ As a result, (55b,f), but not (55d,h) have the abstract structure in (54). To account for the facts in question I appeal to the standard assumption that, in contrast to pronominal and auxiliary clitics in the languages under consideration, *li* is a second position clitic (see also Legendre 2000). I suggest that the abstract structure in (54), which is instantiated in (55b,f), is ruled out due to a violation of the second position requirement - *li* is

²⁸In all the constructions in (55), *š*te is an unstressed proclitic. See section 3.4 for discussion why the sentence-initial sequence *š*te *si*, which instantiates the abstract structure #proclitic enclitic, does not result in ungrammaticality.

located in the third instead of the second position of its I-phrase. In terms of the analysis of the second position effect from chapter 2, *li* can satisfy its suffix requirement by merging with *Z* in (54). However, the requirement that *li* be adjacent to an I-phrase boundary cannot be satisfied because *Z* is not adjacent to an I-phrase boundary in the constructions in question.²⁹ Under this analysis, all the constructions in (55) have the same structure in the syntax, with the complex verbal element left-adjoined to *li*, leaving behind a copy. (Notice that if movement to *li* is driven by a feature of *napisal* and *gotov*, no excorporation would take place due to the presence of a phonologically weak element *šte*, given (38).)

- (56) a. [Šte būdeš napisal+li] šte būdeš napisal pismoto?
 b. [Šte būdeš gotov +li] šte būdeš gotov?
 c. [Šte si napisal+li] šte si napisal pismoto?
 d. [Šte si gotov +li] šte si gotov?

While in (56c,d) all the elements preceding *li* can be, and therefore must be, pronounced in the raised position, doing this in (56a,b) would lead to a PF violation, namely, the violation of the second position requirement on *li*. *Napisal* and *gotov* are then pronounced in a lower position to avoid the PF violation. As a result of the lower pronunciation of the elements in question, the second position requirement on *li* is satisfied.³⁰

²⁹The tacit assumption here is that the two stressed elements preceding *li* in (55b,f), namely, *būdeš* and *napisal*, are not parsed as a single phonological phrase, so that the element *li* merges with (*napisal*) does not head a phonological unit that is adjacent to an I-phrase boundary. For more evidence that the second position requirement cannot be satisfied by placing a complex verbal X⁰-element containing more than one stressed verbal element in front of a second position clitic, see Bošković (1997a). There, I demonstrate that SC constructions like (i), containing a second position auxiliary clitic, are syntactically well-formed. (I also show that the verbal elements are left-adjoined to the clitic, which is the configuration the Bulgarian and Macedonian constructions under consideration have.) The construction is, however, ruled out due to a violation of the second position requirement on the auxiliary clitic.

(i) *[_{Aux} Čekali_i bili_i ste] Marijinu prijateljicu.
 +stress +stress
 waited been are Marija's friend
 'You had been waiting for Marija's friend.'

³⁰Left-to-right scanning in determining which member of a non-trivial chain to pronounce (more precisely, we are looking for elements to delete; those that are not deleted are pronounced) ensures that the second rather than the first stressed element is pronounced in a lower position. I assume that once we hit *li*, an undeletable trivial-chain, in the scanning, we back-track *locally* and delete the stressed element immediately preceding *li* to save the construction from a second position requirement violation.

It is worth noting here that the backtracking is unnecessary under the Bošković and Franks (1999) proposal that a decision where to pronounce an item is made only when all copies of the relevant chain are scanned. (As noted in fn. 12, Bošković and Franks also assume left-to-right scanning.) Under this proposal, the first complete chain is actually the trivial one with *li*. Next, *šte* and *būdeš* are considered in turn and pronounced in the highest position. Finally, *gotov/napisal* are considered. They cannot be pronounced in the highest position since doing this would violate the second position requirement on *li*. Hence, they are pronounced in the lower position. The desired result

- (57) a. [Šte būdeš ~~napisal~~+li] ~~šte būdeš~~ napisal pismoto?
 b. [Šte būdeš ~~gotov~~ +li] ~~šte būdeš~~ gotov?
 c. [Šte si napisal+li] ~~šte si napisal~~ pismoto?
 d. [Šte si gotov +li] ~~šte si gotov~~?

It is easy to verify that other constructions instantiating the abstract pattern in (54) in the syntax (see the Bulgarian construction in (49a), as well as the Macedonian (67) and (69) below) can be accounted for in the same way as the *būdeš* constructions. The second stressed element in (49a), namely the verb, is pronounced in a lower position following *li* to satisfy the second position requirement.

There is also evidence that is independent of *li*-placement in yes-no questions that *li* is subject to the second position requirement. The evidence in question also shows that the second position requirement on *li* has to be assumed regardless of whether the analysis proposed here or Rudin et al.'s analysis of *li* is adopted. The evidence concerns constructions like (58).

- (58) [_{CP} Koj [_C li kupuva kolata]]
 who Q buys car-the
 'Who on earth is buying the car?'

Rudin (1993) argues that the wh-phrase in constructions like (58) is located in the Spec of the CP headed by *li* (see also King 1994, Rivero 1993, Rudin 1986, Rudin, King, and Izvorski 1998, and Tomić 1996a, among many others). Now, Rudin (1988) argues convincingly that Bulgarian can locate more than one wh-phrase in the interrogative SpecCP. Thus, she argues that all fronted wh-phrases in a multiple wh-fronting construction like (59) are located in the interrogative SpecCP.

- (59) [_{CP} Koj kakvo [_C kupuva]]
 who what buys
 'Who is buying what?'

Rudin gives a whole battery of tests in support of her analysis. To mention here just one of her arguments that more than one wh-phrase can be located in the interrogative SpecCP overtly in Bulgarian, Bulgarian constructions like (60) do not exhibit the wh-island effect. (There are some complications regarding extraction out of wh-islands in Bulgarian. See Rudin 1988 and Bošković 1998b.)

- (60) (Petko znae) koja ot tezi knigi_i se čudiš koj prodava t_i.

Petko knows which of these books self wonder who sells
 ‘Petko knows which of these books you wonder who sells.’

Rudin observes that this is expected under her analysis. Given that Bulgarian allows more than one wh-phrase in interrogative SpecCPs, *koja ot tezi knigi* in (60) can pass through the embedded SpecCP in spite of the SpecCP being already filled by a wh-phrase. This derivation is not allowed in English, because this language cannot place more than one wh-phrase overtly in an interrogative SpecCP. Notice that the wh-island effect in Bulgarian is voided with embedded wh-*li* questions, as well as null C questions, which shows that, like null C questions, *li*-questions allow more than one wh-phrase in SpecCP.

(61) (Petko znae) koja ot tezi knigi se čudiš koj li prodava t_i.
 Petko knows which of these books self wonder who Q sells
 ‘Petko knows which of these books you wonder who on earth sells.’

The possibility of locating more than one wh-phrase in the interrogative SpecCP is thus a general property of Bulgarian questions.

Significantly, constructions involving more than one wh-phrase preceding *li* are unacceptable.³¹ Thus, (62) contrasts with (59).

(62) *_{[CP} Koj kakvo [_c li kupuva]]
 who what Q buys
 ‘Who on earth is buying what?’

It appears that nothing goes wrong with (62) in the syntax. However, the construction can be readily ruled out in PF due to a violation of the second position requirement on *li*. I therefore conclude that it is necessary to assume a second position requirement on *li* independently of the head-movement-to-*li* constructions, regardless of whether the current or Rudin et al.’s analysis of *li* is adopted. Notice, however, that under the current analysis, we would expect it to be possible to repair (62) by pronouncing the second wh-phrase in a lower position of the chain created by its movement to SpecCP. The expectation is borne out, as the following construction shows. (I leave open exactly where the second copy of *what* is located. We are entering here the murky territory of successive cyclic movement.)³²

³¹One of my informants does accept such constructions. I return to this issue in fn. 60.

³²Recall that, as discussed in Rudin (1988), the first wh-phrase moves first to SpecCP and undergoes spec-head agreement with *li*. If there are any differences in the interpretation of the two wh-phrases, which is not completely clear, they could follow from this.

Interestingly, an adverb cannot immediately follow *li* in (ia), in contrast to (ib).

(63) [_{CP} Koj ~~kakvo~~ [_C li kakvo kupuva]]

In light of the above discussion, I conclude that what I have called heavy host constructions do not favor Rudin et al.'s analysis of *li* over the analysis presented here, as it seemed at first sight.

Consider now the following constructions, with the negative marker immediately preceding *li*.

- (64) a. *Ne li go vidja? (Bulgarian)
 not Q him saw
 'Didn't he/she/you see him?'
 b. (*)Ne li go vide? (Macedonian)
 not Q him saw
 'Didn't he/she/you see him?'

Bulgarian (64a) can be straightforwardly ruled out. Given the S-Structure in (65), with *go* assuming stress as a result of it following *ne*, there is no need to pronounce *go* in a lower position. *Go* then cannot be pronounced in a lower position.

(65) [ne go vidja li] ne go vidja? (Bulgarian)

Turning now to the Macedonian (64b), its status is controversial. According to Minova-Āurkova (1987) and Tomić (1999a), such constructions are unacceptable in all dialects of Macedonian on the unmarked yes-no question reading. According to Rudin et al., (64b) is acceptable on this reading.³³ They argue that, in addition to functioning as an unstressed proclitic, the negative marker

-
- (i) a. Koj li (*prez poslednata godina) kogo e viždal šastliv?
 who Q during last-the year whom is seen happy
 'Who on earth saw whom happy during the last year?'
 b. Koj li prez poslednata godina e viždal Petko šastliv?
 who Q during last-the year is seen Petko happy
 'Who on earth saw Petko happy during the last year?'

It is unclear why this is the case. I speculate that this has something to do with the focalization requirement on Bulgarian wh-phrases (see, however, section 4.3.2.4 for an alternative analysis). Recall that Bulgarian wh-phrases must undergo focus movement. *Kakvo* does this in (63) by moving to the maximal projection in which *li*, the focus licenser, is located (see section 4.3.2). It is possible that the focalization requirement on Bulgarian wh-phrases is stronger than mere feature-checking and requires that in constructions with an overt focus marker, Bulgarian wh-phrases be pronounced adjacent to the focus marker, which is *li*. (The second wh-phrase in (i) (i.e. the member of the chain created by movement of that wh-phrase to SpecCP that ends up being pronounced) could actually be pretty low in the tree, even in SpecAgroP. It would just have to be pronounced adjacent to *li*.)

³³Tomić suggests that those who claim that the negative marker *ne* can immediately precede the clitic *li* are misinterpreting the one-word complementizer *neli* 'isn't it true that' as a sequence of negation and the clitic *li*. That

in Macedonian can itself bear stress. According to them, (64b) is acceptable with the stressed negative marker.³⁴

(64b) can be easily ruled out on a par with its Bulgarian counterpart (64a). The question is whether the construction can be ruled in, should Rudin et al.'s empirical claim turn out to be correct. Suppose for the sake of argument that Rudin et al. are indeed correct in their claim that (64b) should be ruled in and that the negative marker on the relevant derivation is stressed. The construction then has the following structure in the current system:

- (66) Ne go vide li ne go vide? (Macedonian)
 +stress +stress

Given everything said so far, if the whole sequence *ne go vide* is pronounced in the raised position the construction would violate the second position requirement on *li*. One of the stressed elements then has to be pronounced in a lower position. Given left-to-right scanning in determining which parts of a non-trivial chain to pronounce, the verb will have to be pronounced in a lower position. The question is where the pronominal clitic will be pronounced. Recall that *go* is a verbal proclitic: it must procliticize to the verb in PF (see also section 4.5 for relevant discussion).³⁵ If *go* is

neli can be a one-word complementizer is confirmed by the fact that it can co-occur with sentential negation, as the following example from Tomić (1996a) shows.

- (i) Neli ne mu go dade pismoto?
 isn't it true not him.dat it.acc gave letter-the
 'Isn't it true that you did not give him the letter?'

³⁴Tomić (1999a) claims that although in standard Macedonian the negative marker is itself unstressed, in the Skopje dialect, a North-Western dialect, the negative marker can be stressed. (I am discussing here underlying stress, not stress assigned through the process of Enlarged Stress Domain, discussed below.) Still, according to Tomić, (64b) is unacceptable in this dialect. (It is possible that the sequence stressed *ne+li* is simply disallowed in this dialect, possibly under the influence of Standard Macedonian. See the discussion below.)

³⁵As discussed in section 4.5, Macedonian clitics can actually encliticize in certain contexts, namely, when no finite verb is present. Rudin et al. (1999) show that this does not happen in the configuration in question, where a finite verb is present: the clitic procliticizes to the verb instead of encliticizing to the element preceding it. Their argument is based on stress assignment. Macedonian has regular antepenultimate stress. Enclitics count for stress assignment (with some exceptions, see section 4.3.1.2). Thus, the enclitics in (i), from Franks (1989), shift the stress from *kamo*, the only lexically accented word in the example, to the third syllable from the end of the whole sequence host+enclitics. (Stressed syllables are given in capital letters.)

- (i) Kamo MI ti go?
 where-to me.dat you.dat it.acc
 'Where did that thing of yours get to on me?'

Given this, the fact that the clitics in Rudin et al.'s example in (ii) fail to draw the stress off of *ne* suggests that they are not encliticizing to *ne*. (Notice that proclitics in Macedonian do not affect stress assignment so that the stress remains on the verb in (ii). Notice also that with two-syllabic words, stress occurs on the first syllable.)

pronounced in the highest position the PF requirement in question cannot be satisfied. Since *go* would then be followed by an element (*li*) that must encliticize to the word preceding it (namely, *ne*), *go* could not procliticize to the verb, which follows *li*. To satisfy its PF requirement, *go* then has to be pronounced in a lower position. We thus derive (64b).

- (67) [ne ~~go~~vide li] ne go vide? (Macedonian)
+stress +stress

The following Macedonian construction can be handled in essentially the same way as (64b) under the pronounce-a-copy analysis, given that *sam ti go dala* must procliticize to the verb. (Notice that, as argued by Joseph 1983:110-117, the so-called *l*-participle, used in the auxiliary+participle construction below, is a finite element.)

- (68) Ne li sam ti go dala?
not Q am you.dat it.acc given
(69) [ne ~~sam ti go dala~~ li] ne sam ti go dala?
+stress +stress

Let us now examine more closely how constructions involving negative marker *ne* are treated under the Prosodic Inversion analysis. Recall first that even simple negative constructions such as the Bulgarian (49b) raise a problem for the Prosodic Inversion analysis. Given that Prosodic Inversion moves phonologically deficient elements the minimal distance necessary for them to satisfy their PF requirements we would expect *li* to be moved following *ne* instead of following *go*. The former movement is shorter and satisfies all phonological requirements on *li*, just like the latter movement. We then end up with **ne li go vidja* instead of (49b).

Negative sentences raise other problems for the Prosodic Inversion analysis. Let us consider clitic placement in negative sentences involving the phenomenon of Enlarged Stressed Domain (ESD), which allows for the possibility of stressing two lexically accented words as a single prosodic word, as discussed in Franks 1987 (see also Elson 1993 and Alexander 1995, among others). As noted above, Macedonian has regular antepenultimate stress with words containing three or more syllables. Rudin et al. observe that if ESD applies, the sequence *ne mi go dale*, whose non-ESD accentuation (more precisely, the relevant option) is given in (70a), can be assigned stress as in (70b), with the regular antepenultimate stress applying to the whole sequence as if it were one

-
- (ii) NE sme mu go DAle.
not are him.dat it.acc given
'We didn't give it to him.'

In section 4.5, I give an analysis of when Macedonian clitics procliticize and when they encliticize. For our current purposes, it suffices to assume that whenever a clause-mate finite verb is present, the clitic must procliticize to it.

prosodic word.

- (70) a. NE mi go DAle.
 not me.dat it.acc gave
 ‘They didn’t give it to me.’
 b. Ne mi GO dale.

Let us now consider what happens when the sequence in question occurs in a yes-no *li*-question. Under the Prosodic Inversion analysis, (71a) would be the S-Structure of the construction in question. If Prosodic Inversion were to move *li* following the first stressed element, we would get (71c) instead of the correct (71b). To account for the data in question, Rudin et al. propose that Prosodic Inversion moves clitics after the first prosodic word domain, which is the whole sequence *ne mi go dale*, not simply after the first stressed word.

- (71) a. Syntax: li+ne mi GO dale?
 b. Phonology: ne mi GO dale li?
 c. *ne mi GO li dale?

The assumption is also needed to account for the following Macedonian construction from Rudin et al. (1999), which, according to them, involves the stressed negative marker.

- (72) Ama ne e li toa otvoren strav deka ke umram?
 but not is Q this open fear that will die
 ‘But isn’t this an obvious fear that I would die?’

Under the Prosodic Inversion analysis, the construction would be analyzed as involving right-adjunction of *ne e* to *li*. Given that Prosodic Inversion moves elements it affects only the minimal distance necessary for them to get proper phonological support, Prosodic Inversion should move *li* right after the stressed negative marker, thus deriving the sequence *ne li e* instead of *ne e li*. This will not happen if we assume that *ne e* forms one prosodic word and that Prosodic Inversion places clitics after the first prosodic word domain, not simply prosodic word stress. (This amounts to saying that Prosodic Inversion cannot break up prosodic words.)

- (73) Syntax: [li+ ne e]...
 Phonology: ne li e...

Before proceeding, notice that both (72) and (71b) are straightforwardly derived under the pronounce-a-copy-analysis. Under this analysis, *ne e* and *ne mi go dale* left-adjoin to *li*, which

gives us the desired sequences *ne e li* and *ne mi go dale li*, given the preferred pronunciation in the head of non-trivial chains, which is possible and therefore enforced here. (Recall that *e* is itself an enclitic on the negative marker, which is the only stressed element preceding *li* in (74a). In (74b), only *go* is stressed, as a result of an application of ESD, which turns the sequence preceding *li* into a single prosodic word.)

- (74) a. [ne e+li] ~~ne e~~.....
 b. [ne mi GO dale+li] ~~ne mi go dale~~.....

Returning now to the Prosodic Inversion analysis, the assumption that Prosodic Inversion does not break up prosodic words, necessary to account for (72) and (71b), creates a problem for Bulgarian constructions such as (75a), whose S-Structure under the Prosodic Inversion analysis is given in (75b).

- (75) a. Ne mi li go dade?
 not me.dat Q it.acc gave
 ‘Didn’t he/she/you give it to me?’
 b. [li+ne mi go dade]....

Given that all Bulgarian enclitics always cluster together phonologically, we would expect *mi go* to be part of the same prosodic word, just as in (76).

- (76) Petko mi go dade.
 Petko me.dat it.acc gave
 ‘Petko gave it to me.’

But then, given the assumption that Prosodic Inversion does not break up prosodic words or, more precisely, that Prosodic Inversion places clitics after the first prosodic word domain, not simply prosodic word stress, Prosodic Inversion should place *li* in (75a) following the second clitic, which would give us the following ungrammatical construction. (Notice that I am ignoring here another problematic derivation, discussed above, on which Prosodic Inversion places *li* right after the negation.)

- (77) *Ne mi go li dade?

It appears then that the Prosodic Inversion analysis cannot accommodate the full range of facts concerning clitic placement in negative sentences. In all fairness, it should be noted that accounting for (75a) requires an additional assumption even under the pronounce-a-copy analysis. Under the

pronounce-a-copy analysis, (75a) has the S-Structure in (78a), with the deletions indicated in (78b) taking place in PF.

- (78) a. [Ne mi go dade+li] ne mi go dade?
 b. Ne mi ~~go dade~~ li ne mi go dade?

The verb has to be pronounced in a lower position, but it is not clear why the second pronominal clitic has to be pronounced in a lower position. I suggest that we are dealing here with a change in progress or, more precisely, a change that is just beginning: Bulgarian clitics are about to become like Macedonian clitics in that they are prosodically parsed together with the verb. This is why the second pronominal clitic (the only unstressed pronominal clitic) is pronounced in a lower position together with the verb. The construction under consideration represents a door through which a change of the Bulgarian encliticization system into the Macedonian verbal procliticization system (or the Romance system) is sneaking in.³⁶ It is worth noting in this respect that Rudin et al. observe that in constructions like (75a), it is possible to pause before the second pronominal clitic, but not after it, which indicates that we might indeed be dealing here with verbal procliticization. Since verbal procliticization is otherwise not possible in Bulgarian, the construction under consideration seems to be the one that is bringing the change into the language. Notice that Bulgarian used to be a true second position clitic language, just like SC (see Izvorski 1995). Bulgarian clitics then became simple enclitics, not subject to the second position requirement. They are adjacent to the verb, but the adjacency to the verb seems to be the result of their syntactic placement since in most cases, they do not depend on the verb phonologically. The change that has just started is making them dependent on the verb phonologically as well as syntactically - they are about to become verbal proclitics, just like Macedonian clitics (apart from *li*, which remains a true second position clitic). In this respect, one should also recall the discussion of SC from section 3.4. We have seen in that section that SC clitics have started losing their encliticization requirement, as evidenced by the fact that in certain contexts they can be preceded by a pause while still remaining unstressed. Recall now that the contexts in question are sentence internal; the apparent procliticization option is not yet possible in sentence-initial positions. The same seems to be happening in Bulgarian. Clitics are becoming able to procliticize in some sentence-internal positions, such as the one in (75a). However, this option is completely excluded in sentence-initial positions. Hence the ungrammaticality of (79).³⁷

³⁶The account seems restatable under the Prosodic Inversion analysis.

³⁷Notice also the following actually attested example, brought to my attention by Steven Franks. (The example is taken from a Bulgarian magazine.)

(i) Ot njakolko sedmici, az, 19 g., si imam prijatelka, 18 g., s kojato mi se iska da spja

(79) *Mi go dade.

My speculation is, however, that in due time, the procliticization option will spread so that constructions like (79) will become acceptable. For explanation why the encliticization requirement is first relaxed in sentence-internal positions, see section 3.4. The explanation, developed there with respect to SC, is extendable to Bulgarian.³⁸ What has enabled (75a), whose S-Structure is given in (78), to start the procliticization option is that this is the only construction where an element other than a pronominal or an auxiliary clitic intervenes between an unstressed pronominal clitic and the verb (given that the verb must be pronounced in a lower position, as discussed above. Recall that the clitic that follows the negative marker is stressed). It is also possible that instead of real procliticization, at this point we have at work here an adjacency requirement between unstressed pronominal clitics and the verb.³⁹ This could be the reason why the second pronominal clitic must be pronounced in a lower position together with the verb. (Recall that the verb is pronounced in a lower position to satisfy the second position requirement on *li*.) It is natural to expect the adjacency requirement to lead to a change to full-blown procliticization.

4.3.1.2 Stress assignment in *li*-constructions. As noted above, Macedonian has regular antepenultimate stress with initial stress in mono- and disyllabic words (for discussion of Macedonian stress, which presents a crosslinguistically rather rare pattern, see Baerman 1998, Comrie 1976, Franks 1987, 1989, Hammond 1989, Kenstowicz 1991, and Rudin et al. 1999, among others). In some contexts, addition of clitics affects stress placement in Macedonian. We will see in section 4.5 that in certain contexts, mostly ignored so far, Macedonian clitics encliticize. (The contexts in questions represent a remnant of the second position effect in Macedonian, see the discussion in section 4.5.) Interestingly, whereas proclitics never affect stress placement (80), addition of enclitics may affect stress placement, as illustrated by the imperative forms in (81). (Stressed syllables are capitalized. See section 4.5 for analysis of imperatives which does not affect

since several weeks I 19 y(ears) self have girlfriend 18 y(ears) with whom me.dat. self want to sleep
 v naj-skoro vreme.
 in most soon time
 ‘For a few weeks, I, 19 years old, have been having a girlfriend, 18 years old, with whom I want to sleep as soon
 as possible.’

Since a pause must follow the appositive, it appears that the clitic *si* is undergoing procliticization. (Some, but not all, of my informants accept the construction.)

³⁸Under the analysis from section 3.4, we would actually not be dealing with true procliticization in the contexts in question. See that section for relevant discussion.

³⁹See also fn. 42. We would actually have to assume this if the analysis of SC from section 3.4, mentioned in fn. 38, is to be extended to the Bulgarian construction under consideration. Notice also that if the adjacency requirement approach is correct, the analysis of (75a) developed here under the pronounce-a-copy analysis would not be extendable without additional assumptions to the Prosodic Inversion analysis, which was suggested in fn. 36.

the current analysis of Macedonian constructions involving procliticization.)

- (80) a. ti im DAle.
 you.dat them.acc gave.pl
 ‘They gave them to you.’
 b. *ti IM dale.
 c. ti im DAle.
 you.dat them.acc gave.m.sg
 ‘He gave them to you.’
 d. *TI im dal.
- (81) a. DOnesi!
 ‘Bring!’
 b. doNEsi gi!
 ‘Bring them!’
 c. doneSI mi gi!
 bring me.dat them.acc
 ‘Bring them to me!’

Significantly, as observed in Rudin et al. (1999), *li* does not affect stress assignment.

- (82) a. doNEsuvaš.
 ‘You are bringing.’
 b. doNEsuvaš li?
 ‘Are you bringing?’

An argument for the Prosodic Inversion+rightward movement analysis emerges from these facts, as observed in Franks (1998a). The exceptional behavior of *li* or, more precisely, the contrast between (81) and (82) with respect to the effect of enclitics on stress assignment, can be readily accounted for under the Prosodic Inversion analysis if Prosodic Inversion takes place after stress assignment. At the point when stress assignment takes place, *li* then precedes the verbal element. It is then natural that it patterns with clitics in (80) and not clitics in (81) with respect to stress assignment.

- (83) li+donesuvaš
 Stress assignment: doNEsuvaš
 Prosodic Inversion: doNEsuvaš li

The argument is appealing. There is, however, a problem with it. Notice first that, in contrast to

imperatives, in gerunds, another type of construction in which Macedonian clitics encliticize, enclitics do not affect stress assignment. (The clitics fail to draw the stress to the last syllable of the gerund in (84a).)⁴⁰ The same holds for past and passive participles, as well as non-verbal predicates, as observed by Baerman and Billings (1998). (Stress is indicated only on the clitic host. Notice that *ké* is an auxiliary clitic. See section 4.5 for more detailed discussion of constructions in which Macedonian clitics encliticize.)

- (84) a. KupuVAJ*ki* mi go...
 buying me.dat it.acc
 ‘Buying it for me...’
- b. REčeno mu e...
 told him.dat is
 ‘He was told...’
- c. ISpraznat *ke* e stanot.
 emptied will is apartment-the
 ‘The apartment will be vacated.’
- d. Mili mi se.
 dear me.dat are
 ‘They are dear to me.’
- e. TATko mi e.
 father me.dat is
 ‘He is my father.’
- f. MNOgu si mi mil.
 much are me.dat dear
 ‘You are very dear to me.’

It is then not clear what the basic pattern with respect to the effect of enclitics on stress assignment is. Is the basic pattern the one displayed by gerunds, past and passive participles, and various non-verbal predicates, or the one displayed by imperatives? If the former (recall also that proclitics do not affect stress assignment), the behavior of *li* is not a surprise even under the pronounce-a-copy analysis, on which *li* enters PF following the verb in (82).⁴¹

⁴⁰Baerman and Billings (1998) observe that the penultimate stress in (84a) results historically from diphthongization (ku.pu.VA.e.ći → ku.pu.VAJ.ći). The pattern in (84a), with stress on VAJ, unaffected by the presence of the enclitics, is the prescribed literary norm. Baerman and Billings also observe that stem-antepenultimate stress is possible for some speakers. They give *DAvaj*ki* mi gi* ‘giving them to me’, where the clitics also fail to affect stress assignment. Baerman and Billings, however, also note that for some speakers, enclitics do affect stress assignment with gerunds. (Those speakers would have *davaj*ki* mi gi*.)

⁴¹Baerman and Billings (1998) make a claim that only clitics that are incorporated, i.e. located in the same head position as their host, affect stress assignment, a claim which leads them to conclude that the element hosting

4.3.1.3 An adjacency effect. An obvious difference between the Prosodic Inversion analysis and the pronounce-a-copy-analysis is that under the former analysis, the complex X^0 -element moving to *li* is pronounced in its raised position, which is not always the case under the latter analysis. Abstractly, in the configuration in (85), where X_1 to X_4 are X^0 -elements adjoined to *li*, all Xs and *li* are always pronounced in the same head position under the Prosodic Inversion analysis. Under the pronounce-a-copy analysis, some Xs can be, and often are, pronounced in a lower position.

(85) [(X_1 X_2) *li* (X_3 X_4)], where X_1 to X_4 are adjoined to *li*.

As a result, we might expect it to be easier to break up a cluster consisting of *li* and the complex X^0 -element moving to it under the pronounce-a-copy-analysis than under the Prosodic Inversion analysis. However, lexical material not belonging to the X^0 -element moving to *li* cannot intervene between *li* and the Xs following *li* in (86).

- (86) a. Ne ti li (*veče/pravilno/včera) go dade Ana?
 not you.dat Q already/correctly/yesterday it.acc gave Ana
 ‘Didn’t Ana already/correctly/yesterday give it to you?’
 b. Dade li (*veče/pravilno/včera) ti go Ana?
 gave Q already/correctly/yesterday you.dat it.acc Ana
 ‘Did Ana already/correctly/yesterday give it to you?’

We can account for the adjacency effect in yes-no *li*-questions by assuming that clause-mate clitics in the languages under consideration must cluster.⁴² In fact, a prosodic condition to this effect was

li is not located in the same position as *li*. They thus argue against Rudin et al.’s rightward-adjunction-to-*li* analysis. Their conclusion is consistent with one of the options considered above with respect to the placement of *li*, namely, the analysis on which *li* is located in the Spec of the complement of C and the complex head preceding *li* moves to C. (Recall that in contrast to previous analysis of *li*, under the account of *li* in Bulgarian and Macedonian developed here, it is crucial that the element hosting *li* moves *in front of li* in the syntax; whether *li* and its host are located in the same head position is immaterial.) Under this analysis, the fact that *li* does not affect stress assignment is expected, given Baerman and Billings’s claim that only clitics that are located in the same head position as their host affect stress assignment. However, I hesitate to endorse this analysis of the *li*-construction here based on this because Baerman and Billings do not provide sufficient independent evidence in support of their claim. They simply give a list of contexts in which clitics affect stress assignment and those in which they do not and make a claim that in the former, but not in the latter, the clitics and their hosts are located in the same head position. For most relevant constructions, they do not provide independent syntactic evidence for the assumed structural configurations. Furthermore, their claim concerning stress assignment leads them to some very non-standard conclusions. For example, based on stress assignment, they claim that the clitic and the verb are not located in the same head position in constructions such as (5). However, no independent syntactic evidence is provided to justify this conclusion and obvious arguments against this position (for example, the fact that (5d) (see also (17)) is ungrammatical and the fact that the verb carries clitics along when moving to a higher position) are ignored.

⁴²I am ignoring here *li* in the focus *li*-construction, which might not even be a clitic (see section 4.3.2.4). Notice also that under the clustering analysis, it might be necessary to adopt the adjacency-to-V rather than the

proposed in section 4.2. There, I suggested that clause-mate clitics in Bulgarian must be parsed into the same clitic group or parsed into a prosodic constituent which attaches to its host as a unit. This forces clustering of clause-mate clitics and straightforwardly accounts for the adjacency effect in yes-no *li*-questions. Notice that under this analysis, we need to assume that, in contrast to *li* in Macedonian, which has to be exempt from the clustering requirement (see fn. 22), *li* in Bulgarian must be subject to it, otherwise, we could not account for (86b). The difference between Macedonian and Bulgarian *li* is not surprising. Bulgarian *li* patterns with other Bulgarian clausal clitics under consideration in that it is an enclitic. On the other hand, *li* in Macedonian differs in this respect from other Macedonian clausal clitics, the former being an enclitic and the latter proclitics. It is natural that due to different attachment requirements, *li* and verbal proclitics should not be required to be prosodically parsed together.⁴³

Notice, however, that under the clitics-as-non-branching elements analysis, there is a straightforward account of the adjacency effect that does not require positing any differences between the Bulgarian and the Macedonian *li*. Under this analysis, the Xs following *li* in (85) (*go dade* in (86a) and *ti go* in (86b)) are located in the head position of the phrase whose specifier *li* occupies. Recall that with head movement, the highest copy that can be pronounced must be pronounced. As a result, the part of the complex head moving to *li* that cannot be pronounced in front of *li* is pronounced in the first possible position below *li*. As discussed above, under the clitics-as-non-branching-elements analysis, *li* is located either in the Spec of the complement of C (call it FP) or SpecCP. The Xs following *li* in (85) are then located either in F (under the former analysis) or C (under the latter analysis). Since the Xs following *li* are located in the head position of the phrase whose specifier *li* occupies it is no surprise that nothing can intervene between *li* and the Xs following *li*. As in the Prosodic Inversion analysis, there is simply not enough space between the two. The adjacency effect is thus straightforwardly accounted for under this analysis.⁴⁴

procliticization-to-V analysis for the second pronominal clitic in (86a) (see p. 219).

⁴³If, as claimed by Rudin et al. (see, however, Minova-Āurkova 1987 and Tomić 1999a, who disagree), Macedonian (ia) is acceptable, we would need to assume that negation, which is normally a verbal proclitic, has to be adjacent to other clitics even in (ia), where, according to Rudin et al., *ne* bears stress, and that *li*, or perhaps clitics and phonologically weak elements in general, do not disrupt the relevant adjacency relation. (Notice that adverbs cannot occur between the heads in (ia), which has the structure shown in (ib).)

- (i) a. (*)Ne li sam ti go dala?
 not Q am you.dat it.acc given
 'Didn't I give it to you?'
 b. [Ne sam ti go dala+li] ne sam ti go dala?
 (ii) *Ne li prez poslednata godina sam ti go dala?
 not Q during last-the year am you.dat. it.acc. given
 'Didn't I give it to you during the last year?'

⁴⁴It was suggested above that under the *li*-in-SpecFP analysis, *li* and the complex head adjoined to it might be moving to C, overtly or covertly. If the movement is overt, the Xs following *li* in (85) would be located in FP,

4.3.1.4 *Li* and topics. In this section I show that certain facts concerning topicalization in neutral yes-no *li*-questions favor the current analysis of *li* over the Prosodic Inversion analysis. (In this section I disregard the focus *li*-construction, which is discussed in section 4.3.2.)

Topics in Bulgarian occur pretty high in the tree. Thus, in (87), a topic precedes an interrogative element in the embedded clause. (In all the constructions in this section, the topicalized element, which is interpreted as old information, is given the subscript T. Rudin 1993 argues that the topic is adjoined to CP. Another possibility is locating it in SpecCP (additional SpecCP when necessary, as in (87a)). See also Bošković 1998b, 2000d for evidence that C "licenses" the topic.)

- (87) a. (Iskam da znam) taja žena_T koga šte (ja) vidiš.
 want to know this woman when will her see
 'I want to know when you will see this woman.'
- b. (Iskam da znam) taja žena_T dali šte (ja) vidiš.
 want to know this woman whether will her see
 'I want to know whether you will see this woman.'

Notice also that the topic in both constructions can be, but does not have to be, followed by a pause.⁴⁵ Since it does not have to be followed by a pause, it should in principle be able to serve as a host for encliticization of the element following it. That a topic can host a clitic is confirmed by the grammaticality of (88).

- (88) a. Petko_T si (go) vidjal.
 Petko are him seen
 'Petko, you have seen.'
- b. Kolata_T mi (ja) dade.
 car-the me.dat it.acc gave
 'The car, he/she/you gave to me.'

Significantly, in spite of this, constructions of the type given in (89), where a topic immediately precedes *li*, are unacceptable. An illustration of this is given in (90).

- (89) X topic *li* Y
-

while *li* would be located in C. The adjacency effect could still be accounted for since it seems plausible that F, which is inserted into the structure only to license *li*, cannot license an adjunct adjoined to FP. Alternatively, the option in question could be eliminated.

⁴⁵(87b) actually sounds a bit unnatural with a pause and is perfect without a pause. Rudin (1986) argues that the presence vs absence of a pause reflects the structural position of the topic.

- (90) *Kolata_T li prodade (Petko včera)?
 car-the Q sold Petko yesterday
 ‘Did Petko sell the car yesterday?’

Apparently, a topic cannot directly precede *li*, serving as its host. Given what we have seen above concerning topics in Bulgarian, this is totally unexpected under Rudin et al.’s analysis, or any other analysis that places the host of *li* in acceptable neutral yes-no questions after, or below, *li* in the syntax. Under Rudin et al.’s analysis, (90) would be the S-Structure of the sentence in question. The structure should pass through PF without any violations, with *li* encliticizing to the topic. I conclude, therefore, that Rudin et al.’s analysis cannot account for the ungrammaticality of the topic *li*-construction, where a topic immediately precedes *li* in a neutral yes-no question, serving as its host. The ungrammaticality of the construction is straightforwardly captured under the current analysis. Since under the current analysis the complex verbal head left-adjoins to *li* instead of right-adjoining to it, there is simply no way of deriving in the syntax a structure in which a topic immediately precedes *li*. The head moving to *li* will always precede it. We therefore get (91) instead of (90).^{46 47}

- (91) Kolata_T prodade li (Petko včera)?

I conclude, therefore, that there is no need to appeal to either PF movement or rightward head movement to account for the yes-no *li*-construction in Bulgarian and Macedonian, contrary to what has been previously argued in the literature. I have shown that all relevant movements can take place in the syntax and in accordance with Kayne’s LCA once we allow for the possibility of the pronunciation of lower copies of non-trivial chains motivated by PF considerations.

⁴⁶Notice that, as discussed in Izvorski, King, and Rudin (1997), King (1996), Rudin, King, and Izvorski (1998), and Rudin et al. (1999), head movement to *li* takes place obligatorily in the neutral yes-no question *li*-construction. (Under the Prosodic Inversion analysis, it is crucial that head movement to *li* takes place obligatorily to block the Prosodic Inversion derivation for constructions like (i), with Prosodic Inversion placing *li* following the subject in PF (the S-Structure of the sentence would be *li Petko prodade kolata*), which would incorrectly predict that the subject does not have to be contrastively focused in (i), i.e., the construction would not have to be an instance of the focus *li*-construction, discussed in section 4.3.2.)

- (i) Petko li prodade kolata?
 Petko Q sold car-the
 ‘Was it Petko who sold the car?’

⁴⁷For two of my informants, the topic in (91) has to be followed by a pause, which is expected given the second position requirement on *li*. However, for one of my informants, the pause is optional. It is possible that the topic is nevertheless followed by an I-phrase boundary even for this speaker. (This would imply that not all I-phrase boundaries are phonetically manifested as pauses, which indeed seems to be the case.) An alternative is to assume a re-adjustment procedure in I-phrasing for the speaker in question, as a result of which the topic and the verb are parsed as a prosodic constituent. It is also possible that this speaker analyzes (91) as an instance of, or on an analogy with, the focus *li*-construction. On the focus *li*-construction derivation, the sequence preceding *li* forms a constituent moving to SpecCP.

4.3.2 The focus *li*-construction

I turn now to the focus *li*-construction in Bulgarian and Macedonian. As noted above, in addition to neutral yes-no questions, *li* is also used in focused yes-no questions, where a phrase precedes *li*. The phrase is interpreted as contrastively focused, with the rest of the sentence presupposed. (It is sometimes difficult to render in the English translation the contrastive focus on the element preceding *li*. The reader should bear in mind that this element is contrastively focused even when this is not transparent from the translation.)

- (92) Na Suzana li dadoxte nagradata?
 to Suzana Q gave prize-the
 ‘Was it to Susanna that you gave the prize?’

Constructions like (92) are interpreted similar to cleft constructions in English.

- (93) Was it to Susanna that you gave the prize?

As noted in Rudin, King, and Izvorski (1998), the fact that (94a,c), but not (94b,d) are appropriate answers to (92) and (93) shows that the element preceding *li* is focused, just like the clefted element in English, with the rest of the sentence presupposed.

- (94) a. Ne, dadoxme ja na Penka.
 no gave it to Penka
 ‘No, we gave it to Penka.’
 b. #Ne, dadoxme parite na Suzana.
 no gave money-the to Suzana
 ‘No, we gave the money to Suzana.’
 c. No, it is to Jane that we gave it.
 d. #No, it is to Susanna that we gave the money.

Rudin, King, and Izvorski (1998) also observe that inherently unfocusable elements such as existentially quantified NPs like *someone* cannot occur in front of *li* in the focus *li*-construction, which further confirms that the element preceding *li* is indeed focused (for much relevant discussion, see also Deržanski 1999). In this respect, the Bulgarian construction under consideration patterns with English clefts.

- (95) a. *Njakoj li dojde na sreštata?
 someone Q came to meeting-the
 ‘Was it someone who came to the meeting?’
 b. *Was it someone who came to the meeting?

4.3.2.1 Focus movement. It is standardly assumed (see King 1994, Rudin 1993, Rudin, King, and Izvorski 1998, and Rudin et al. 1999, among many others) that *li* in the focus *li*-construction is an interrogative complementizer that also checks a focus feature.⁴⁸ The phrase preceding *li* moves to the Spec of the CP headed by *li*, checking the focus feature. This is why the NP in question is focused.

- (96) [_{CP} Na Suzana_i li [_{IP} dadoxte t_i nagradata]]
 to Suzana Q gave prize-the

However, some focus *li*-constructions are very difficult to accommodate under this analysis. As noted above, certain elements that otherwise seem to be immobile in Bulgarian can occur in front of *li* in the focus *li*-construction. Thus, constructions in (97) are acceptable although Bulgarian otherwise does not allow left-branch extraction, as illustrated in (98).⁴⁹

- (97) a. Novata li kola prodade?
 new-the Q car sold
 ‘Was it the new car that he/she/you sold?’
 b. Mariinata li kola xaresva Petko?
 Maria’s-the Q car likes Petko
 ‘Is it Maria’s car that Petko likes?’
 c. Kakva li kola prodade Petko?
 what-kind Q car sold Petko
 ‘What kind of a car did Petko sell?’
 d. Čija li kola xaresva Petko?

⁴⁸Under the clitics-as-non-branching-elements analysis, *li* could start in the Spec of the complement of C. If, as suggested above, *li* moves to C at some point, we would have the same structure in the relevant respect under the clitics-as-non-branching-elements analysis as under the analysis that generates *li* in C. Therefore, for ease of exposition I assume here the latter analysis. (For other options for analyzing *li* in the focus *li*-construction see pp. 202-203, especially fn. 25. See also the discussion below for an alternative analysis.)

⁴⁹Franks and King (2000:190, 355) observe that Russian focus *li* can also follow what appear to be syntactically immobile elements. Notice that adjectives might not be located in the left branch of an NP. Under Abney’s (1987) analysis, the adjective takes NP as its complement. I will continue to use the traditional term left-branch extraction for ease of exposition without committing myself to a particular analysis of the traditional NP.

- whose Q car likes Petko
 ‘Whose car does Petko like?’
- (98) a. *Kakva prodade Petko kola?
 what-kind sold Petko car
 ‘What kind of a car did Petko sell?’
- b. cf. Kakva kola prodade Petko?
- c. *Čija xaresva Petko kola?
 whose likes Petko car
- d. Čija kola xaresva Petko?

Constructions in (97) raise a serious problem for the standard syntactic analysis of the focus *li*-construction, on which the focused element moves to SpecCP. It seems plausible to assume on the basis of (98) that left-branch extraction is not allowed in Bulgarian. This in turn means that the element preceding *li* in (97) cannot be placed in its surface position in the syntax. We then have here a potential argument for the existence of PF movement. In fact, Franks (1998a) (see also Franks and King 2000) proposes a PF movement analysis for the Russian focus *li*-construction (though not for the reason noted here with respect to Bulgarian), which can be readily extended to Bulgarian. Under this analysis, extended here to Bulgarian, the focus position to which the focused element in the focus *li*-construction moves in the syntax follows (i.e. is below) *li*, as illustrated here with respect to (97a).

- (99) [_{CP} Li [_{FP} [novata kola] prodade]]

In order to get proper phonological support *li* then undergoes Prosodic Inversion in PF, which places it after the first stressed word of the focused element. Under this analysis, it is no surprise that what appear to be syntactically immobile elements can occur in front of *li*. The word order in question is accomplished in the phonology rather than in the syntax. We have here the right type of argument for Prosodic Inversion: a syntactically immobile element that is not generated in front of a clitic nevertheless appears in front of it. This is unexpected if all clitic placement is syntactic, but not under the Prosodic Inversion analysis.

Recall, however, that in chapter 2 we have seen a number of examples of the same kind where an application of Prosodic Inversion rules in unacceptable constructions. In fact, most of those examples had abstractly the same structure as the Bulgarian constructions under consideration, with putative applications of Prosodic Inversion moving a clitic across a phrasal boundary. As a result, an attempt to account for both the Bulgarian and the SC constructions in question by positing locality restrictions on Prosodic Inversion (for example, by limiting the power of Prosodic Inversion by banning it from crossing phrasal boundaries in order to account for the SC constructions from chapter 2) seems doomed to fail. Even apart from the issue under

consideration, there are good reasons to reject the Prosodic Inversion analysis of the Bulgarian focus *li*-construction. As in the case of the SC clitic data discussed in chapter 2, Prosodic Inversion turns out to be too powerful a mechanism for the Bulgarian focus *li*-construction.

Notice first that there are a number of constructions in which locating a syntactically immobile element (see (101)) in front of *li* results in ungrammaticality, as illustrated by (100a,c,e).

- (100) a. *Ivan li Petrov si vidjal včera (ili Petko (Petrov))?
 Ivan Q Petrov are seen yesterday or Petko Petrov
 ‘Did you see Ivan Petrov yesterday (or Petko (Petrov))?’
- b. Ivan Petrov li si vidjal včera (ili Petko Petrov)?
- c. *Nova li Zagora poseti prez vakancijata (ili Stara (Zagora))?
 new Q Zagora visited during vacation-the or old Zagora
 ‘Did he/she/you visit New Zagora during the vacation (or old (Zagora))?’
- d. Nova Zagora li poseti prez vakancijata (ili Stara Zagora)?
- e. *Otkŭm li kŭštata bjaga Petŭr (ili kŭm kŭštata)?
 from Q house-the runs Peter or toward house-the
 ‘Does Peter run from the house (or toward the house)?’
- f. Otkŭm kŭštata li bjaga Petŭr (ili kŭm kŭštata)?
- (101) a. *Ivan si vidjal Petrov včera.
 Ivan are seen Petrov yesterday
 ‘Ivan Petrov, you saw yesterday.’
- b. cf. Ivan Petrov si vidjal včera.
- c. *Nova poseti Zagora prez vakancijata.
 new visited Zagora during vacation-the
 ‘New Zagora, he/she/you visited during the vacation.’
- d. cf. Nova Zagora poseti prez vakancijata.
- e. *Otkŭm bjaga kŭštata.
 from runs house-the
 ‘He/she runs from the house.’
- f. Otkŭm kŭštata bjaga.

The ungrammaticality of (100a,c,e) is expected under the analysis on which the host of *li* in the focus *li*-construction is placed in front of *li* in the syntax. However, it is surprising under the Prosodic Inversion analysis, on which the complex name and the PP follow *li* in the syntax, with Prosodic Inversion placing *li* after the first name and the preposition, the first stressed elements of the complex name and the PP, in the phonology.

- (102) a. Syntax: li Ivan Petrov....

- b. Phonology: Ivan li Petrov...
- (103) a. Syntax: li Nova Zagora...
- b. Phonology: Nova li Zagora...
- (104) a. Syntax: li otkŭm kŭštata bjaga...
- b. Phonology: otkŭm li kŭštata bjaga...

Certain restrictions on what is focused in the focus *li*-construction provide further evidence that the syntactic-movement-in-front-of-*li* analysis is superior to the Prosodic Inversion analysis.

Let us reconsider English cleft constructions, which I assume also involve focus movement. Notice that when a complex NP element is clefted in such constructions, it is possible to have contrastive focus only on the noun head.

- (105) Was it a new car that he bought (or a new house)?

The same holds for focus movement in Bulgarian constructions that do not involve *li*. Contrastively focused elements can undergo overt movement in the syntax even in declarative clauses. When focus movement affects a complex NP, it is possible to have contrastive focus on the noun head only, as illustrated by (106).

- (106) Novata kola prodade (ili novata kŭšta).
 new-the car sold or new-the house
 ‘He/she/you sold the new car or the new house.’

Notice now that in focus *li*-constructions involving a complex NP with an adjective preceding *li* and a noun following *li*, it is not possible to have focus on the noun head only. The adjective preceding *li* must be focused.

- (107) *Novata li kola prodade (ili novata kŭšta)?
 new-the Q car sold or new-the house
 ‘Did he/she/you sell the new car (or the new house)?’

In fact, the element preceding *li* in the construction in question must be focused. This is confirmed by the ungrammaticality of (108a), where the element preceding *li* is inherently unfocusable. Notice that the relevant phrase can be clefted in English and undergo focus movement in non-*li*-constructions in Bulgarian. The noun head is the only element focused in both (108b) and (108c).

- (108) a. *Njakakva li kola prodade?

- some Q car sold
- b. Was it some car that he sold?
- c. Njakakva kola prodade.

This state of affairs is surprising under the Prosodic Inversion analysis. Under this analysis, (107) could be derived as follows: the NP *novata kola*, with only the noun head focused, undergoes focus movement, like *novata kola* in (106) and *a new car* in (105). Focus movement places *novata kola* immediately following *li* in the syntax.

(109) *li* [novata kola]...

Prosodic Inversion then takes place in PF placing *li* after the first stressed word, namely *novata*, incorrectly deriving (107). (108a) is also incorrectly derived, with Prosodic Inversion applying to the S-Structure in (110).

(110) *li* [njakakva kola]...

The Prosodic Inversion analysis thus fails to account for the fact that the element preceding *li* must be focused. The syntactic movement analysis, on which *li* in the construction in question is specified as [+focus] and checks the focus feature against the element preceding it in the syntax, straightforwardly accounts for this state of affairs.

Notice also that even under the Prosodic Inversion analysis, we still have to assume that syntactic movement in front of *li*, which checks the focus feature of *li*, is an option to account for constructions such as (111).

- (111) a. Njakakva kola *li* prodade?
 some car Q sold
 ‘Was it some car that he/she/you sold?’
- b. Novata kola *li* prodade?
 new-the car Q sold
 ‘Was it the new car that he/she/you sold?’

The Prosodic Inversion derivation cannot give us (111a-b) since Prosodic Inversion could not move *li* past the first stressed elements *njakakva* and *novata*. It appears then that even if we were to adopt the Prosodic Inversion analysis we would also have to adopt the syntactic movement analysis, i.e., we would have to assume that the focus feature can be located in *li* and checked by a focused phrase in the specifier of the CP headed by *li*. We would then have two focus licensors in *li*-

constructions.⁵⁰ Furthermore, in order to account for the fact that focus in (111) can be restricted to the noun head,⁵¹ we need to assume that NPs which only have their noun head focused can undergo focus movement. However, as discussed above, this assumption got us into trouble with respect to constructions in which Prosodic Inversion is supposed to apply, i.e., in which focus movement is supposed to take place to a position below *li* (cf. (108)).

4.3.2.2 The head movement analysis. In light of the above discussion, I conclude that the Prosodic Inversion analysis has to be rejected. The focus *li*-construction involves focus movement in front of *li*. This is the reason why the element preceding *li* has to be focused. The element preceding *li* is placed in its surface position in the syntax as a result of focus movement. *Li* does not acquire its host through Prosodic Inversion. This brings us back to the original question with which we started the discussion of the syntactic movement analysis. Given that the focus *li*-construction indeed involves syntactic focus movement, why is it that left-branch extraction is allowed in the focus *li*-construction, although it is otherwise disallowed in the language? The relevant facts are illustrated in (97) and (98). I give here some additional examples along the lines of (97). ((112c-d) are from Rudin 1993.)

- (112) a. Skŭpi li knigi e kupil Petko?
 expensive Q books is bought Petko
 ‘Was it expensive books that Petko bought?’
 b. Napŭlno li razrušena kŭšta kupi?
 completely Q destroyed house bought
 ‘Was it a completely destroyed house that he/she bought?’
 c. Mnogo li hora imaše?
 many Q people there-were
 ‘Were there many people?’
 d. Tolkova li mnogo hora imaše?
 so Q many people there-were
 ‘Were there so many people?’

⁵⁰They could not be activated at the same time. As demonstrated in Rudin, King, and Izvorski (1998), it is not possible to have a focused element both preceding and following *li*. Thus, (i) is unacceptable if both *Petko* and *včera* are contrastively focused.

(i) Petko li včera e zaminal?
 Petko Q yesterday is left
 ‘Was it Petko who left yesterday?’

⁵¹In (111a), the focus can only be on the noun. In (111b), on the other hand, focus can be either on the noun or on the adjective. Having focus on the whole NP is also an option (see section 4.3.2.4 for relevant discussion).

Notice first that we are not dealing here with "real" phrasal left-branch extraction. The extraction is very local. It cannot take place long-distance, as illustrated in (113). In fact, the remnant of left-branch extraction cannot remain in its base-generated position. It must be located immediately below *li*.

- (113) a. *Novata li misliš će prodade kola?
 new-the Q think that sold car
 'Do you think that he/she/you sold the new car?'
 b. *Novata li (Petko) prodade kola?
 new-the Q Petko sold car
 'Did Petko sell the new car?'

Such left-branch extractions are allowed in real left-branch extraction languages such as SC:

- (114) a. Nova misliš da prodaje kola.
 new think that sells cars
 'New cars, you think that he/she sells.'
 b. Nova Jovan prodaje kola.
 new Jovan sells cars
 'Does Jovan sell new cars?'

On the basis of this I conclude that whatever is going on in the Bulgarian constructions under consideration is not the same thing as left-branch extraction in real left-branch extraction languages. Its locality is clearly much stricter than the locality of real left-branch extraction. Real left-branch extraction clearly involves phrasal movement. What about the Bulgarian constructions under consideration? The unacceptability of (113) can be taken as indicating that no head can intervene between the adjective and the remnant of the extraction. This in turn can be interpreted as indicating that the Bulgarian constructions under consideration involve head movement of the adjective to *li*, rather than phrasal left-branch extraction. The head movement analysis explains the strong locality of the extraction, illustrated by the ungrammaticality of (113).⁵² (97a) is then derived as follows. The phrase *novata kola* scrambles to a position below *li*. The adjective then undergoes head movement by left-adjoining to *li*.⁵³ The movement does not cross any heads and is therefore

⁵²The ungrammaticality of (100a,c,e) indicates that a name and a preposition cannot undergo this kind of movement out of a complex NP and a PP respectively.

⁵³Notice that, as is well-known, scrambled elements crosslinguistically do not represent a barrier for movement from inside them.

Notice also that I am ignoring the determiner here because it is unclear how determiners should be analyzed in Bulgarian. They are bound morphemes with very complex distribution which is very difficult to account for in a

legitimate. The analysis implies that the focus feature of *li* can be checked either through phrasal movement, as in (92), or through head movement, as in (97a). All that is required is a focused element in the checking domain of *li*.

- (115) [_{CP} [Novata_i+li] [t_i kola]_j prodade t_j]
 new Q car sold
 ‘Was it the new car that he/she/you sold?’

The possibility of checking the focus feature of *li* through head movement might have to be allowed independently of the case under consideration to account for the fact that in addition to the neutral yes-no question reading, (116) can be interpreted as involving contrastive focus on the verb, i.e. as an instance of the focus *li*-construction. (Recall also that checking through head adjunction is the only possibility in SC and Russian focus *li*-constructions, discussed in section 2.2.1.4.)⁵⁴

- (116) Prodade li kolata?
 sold Q car-the
 ‘Did he/she/you sell the car?’

If correct, the above analysis sheds a bit of light on the murky phenomenon of left-branch extraction. It shows that even a language that does not allow "true" left-branch extraction could have an appearance of it through head movement of elements occurring in the left branch. In other words, it is possible to have a language that disallows phrasal left-branch extraction, but allows head left-branch extraction. This should be taken into consideration in any analysis of left-branch extraction and the possible parameterization that might underlie the possibility or impossibility of

principled way. They are generally treated either as suffixes or enclitics. (The lexically attached suffix analysis seems most appropriate.) For relevant discussion, see Caink (1998, 1999b), Dimitrova-Vulchanova (1999, 2000), Dimitrova-Vulchanova and Giusti (1998, 1999), Elson (1976), Fowler and Franks (1994), Franks (1998a), Franks and King (2000), Giusti and Dimitrova-Vulchanova (1996), Halpern (1995), Mayer (1988), Ortmann and Popescu (1999), Penčev (1993), Scatton (1980), Stateva (1999, 2000), and Tomić (1996b).

⁵⁴One might think that nothing prevents us now from assigning the structure in (ib) to the sentence in (ia).

- (i) a. Kakva kniga prodade?
 what-kind book sold
 ‘What kind of a book did he/she/you sell?’
 b. [_{CP} [Kakva_i+C] [t_i kniga]_j prodade t_j]

This is not necessarily the case, even if the +wh-feature of C could in principle be checked through head movement. As discussed in Izvorski (1993) and Kraskow (1994) (see also the discussion below), although the verb in Bulgarian questions remains below C it still must be adjacent to the wh-phrase in SpecCP. Whatever is responsible for this requirement might rule out the structure in (ib). In fact, the analysis of the adjacency effect proposed in section 4.3.2.4 would rule out the structure in (ib).

left-branch extraction.

It is worth noting here that the grammaticality of the ellipsis examples in (117) is not inconsistent with the head movement analysis, as it would seem to be in light of the discussion of SC from section 2.2.1.4, where it is claimed that C that undergoes checking through head adjunction instead of spec-head agreement cannot license the ellipsis of its complement, i.e. sluicing. (The analysis presented in section 2.2.1.4 is based on the Lobeck 1990/Saito and Murasugi 1990 claim that only heads that undergo spec-head agreement can license the ellipsis of their complement.)

- (117) a. A: Odo**b**rixa statijata za pečat.
 approved article-the for publication
 ‘They accepted the paper for publication.’
 B: Mariinata li?
 Maria’s-the Q
 ‘The one which Maria wrote?’
- b. A: Šte ti ispratja statijata na Penka.
 will you.dat send article-the of Penka
 ‘I’ll send you Penka’s paper.’
 B: Novata li?
 new-the Q
 ‘The new one?’

The sluicing examples in (117) actually do not have to involve focus-checking through head movement, in contrast to, for example, (97). It is well-known that for a reason that is not completely clear (see Merchant 1999 for some relevant discussion), sluicing repairs Left-Branch Condition violations. Thus, even a language like English, which disallows left-branch extraction, allows left-branch extraction with sluicing, as (118), which contrasts with (119), shows. (The constructions are taken from Merchant 1999.)

(118) He wants a detailed list, but I don’t know how detailed.

(119) *How detailed does he want a list?

Given that the ban on left-branch extraction is lifted in sluicing constructions, the sluicing examples in (117) can be analyzed as involving phrasal left-branch movement to the Spec of the CP headed by *li*.

There is another argument for the viability of this analysis. Notice that Bulgarian allows ellipsis of an NP modified by an adjective or a possessive, as illustrated in (120). (I leave open the precise identity of the node undergoing ellipsis in (120). I refer to it as NP for ease of exposition.)

- (120) a. Nie prodadoxme Petrovata kola, a tja kupi Mariinata ~~kola~~.
 we sold Peter's-the car and she bought Maria's-the car
 'We sold Peter's car and she bought Maria's.'
- b. Toj predade starata domašna no nie iziskvaxme novata ~~domašna~~.
 he submitted old-the homework but we required new-the homework
 'He submitted the old homework, but we required the new one.'

In light of this, it appears that nothing prevents us from analyzing (117) as involving phrasal movement of the "complete" direct objects to SpecCP, with subsequent NP ellipsis and sluicing.

- (121) a. [_{CP} Mariinata ~~statija~~ [_C li [_{IP} ~~odobrixa za pečat~~]]]
 Maria's-the article Q approved for publication
- b. [_{CP} Novata ~~statija na Penka~~ [_C li [_{IP} šte ti ispratja]]]
 new-the article of Penka Q will you.dat send

I conclude therefore that the ellipsis examples in (117) do not represent a problem for the head movement analysis of constructions like (97).

One potential problem for the head movement analysis, as well as the Prosodic Inversion analysis, is raised by constructions like (122). Some constructions of this type are fully acceptable and some are somewhat marginal.

- (122) a. Sŭvsem nova li roklja noseše?
 completely new Q dress wore
 'Was it a completely new dress that she wore?'
- b. ?Tolkova mnogo li hora imaše?
 so many Q people there-were
 'Were there so many people?'
- c. ?Isključitelno skŭpa li kola prodade?
 extremely expensive Q car sold
 'Was it an extremely expensive car that he/she/you sold?'
- d. ?Napŭlno razrušena li kŭšta kupi?
 completely destroyed Q house bought
 'Was it a completely destroyed house that he/she bought?'

Under the head movement analysis, (122a) could be derived by first forming a complex head *sŭvsem nova* through head movement, and then head moving the *sŭvsem nova* complex to *li*. (Other constructions in (122) can be derived in a similar way. The derivation in question should be at least

marginally available for all the constructions in (122).) Under the Prosodic Inversion analysis, on which the NP *sūvsem nova roklja* follows *li* in the syntax, the construction is simply underivable. Prosodic Inversion would place *li* after *sūvsem* instead of *nova*. Other constructions in (122) are also underivable under the Prosodic Inversion analysis.

It is worth noting here that (123) is also acceptable, though a bit degraded.

- (123) ?Sūvsem li nova roklja noseše?
 completely Q new dress wore

Under the head movement analysis, we would be dealing here with optional pied-piping, which the current theory is ill-equipped to deal with. The pied-piping, however, might not be completely optional. Notice that the pied-piping construction in (122a) is perfect, whereas (123), where a single head moves, is somewhat degraded. Significantly, where the pied-piping is somewhat degraded, moving a single head is perfect (compare (122b-d) with (124)).

- (124) a. Tolkova li mnogo hora imaše?
 so Q many people there-were
 b. Isključitelno li skūpa kola prodade?
 extremely Q expensive car sold
 c. Napūlno li razrušena kūšta kupi?
 completely Q destroyed house bought

This could be interpreted as indicating that the pied-piping is not cost-free. The slightly degraded status of (123) justifies pied-piping in (122a). Where such a justification is lacking, as in the case of the fully acceptable (124), there is some cost to pied-piping, as indicated by the somewhat degraded status of (122b-d).⁵⁵

4.3.2.3 The scattered deletion analysis. There are two alternatives to the head movement analysis that do not involve left-branch extraction.

Steven Franks (personal communication) suggests that in constructions like (97a), *novata kola* moves to the Spec of the CP headed by *li* for focus-feature checking. The movement takes place successive cyclically, leaving a copy right below *li*. The following deletions then take place in PF. This derivation gives us (97a) without left-branch extraction. (The analysis is along the lines of Čavar and Fanselow's 1997 analysis of traditional left-branch extraction structures.)

- (125) [_{CP} Novata ~~kola~~ [_C li ~~novata~~ kola prodade]]

⁵⁵Admittedly, though consistent, the relevant contrasts are not very strong. Notice that they remain unaccounted for under the alternative analyses of the focus *li*-construction presented in sections 4.3.2.3 and 4.3.2.4.

What could license the pronunciation of *kola* in the lower position? Suppose that the option of parsing the adjective and the noun as two phonological phrases is available. Under the derivation where this option is taken, the second position requirement on *li* would be violated if both the adjective and the noun are pronounced in SpecCP. Given left-to-right scanning in determining which elements of a non-trivial chain to pronounce, *kola* is then pronounced following *li*. Other apparent left-branch "extraction" constructions discussed above are also readily derivable under the scattered deletion analysis.

A problem, however, arises with respect to constructions such as (113), repeated here as (126).

- (126) a. *Novata li misliš će prodade kola?
 new-the Q think that sold car
 'Do you think that he/she/you sold the new car?'
- b. *Novata li (Petko) prodade kola?
 new-the Q Petko sold car
 'Did Petko sell the new car?'

The above data show that the remnant of the movement to SpecCP must be located immediately next to *li*, which under the head movement analysis can be plausibly analyzed as following from locality restrictions on head movement (see the discussion of (113) above). How can this be handled under the scattered deletion analysis? One way of handling the data in (126) under this analysis would be to assume that as a result of successive cyclic movement, a copy of the element moving to the Spec of the CP headed by *li* is always present right below *li* (the element moving to *li* would then either adjoin to the complement of *li*, whose precise identity I leave open here, or move to its (possibly additional) specifier as a result of successive cyclic movement) and that even with A'-movement, we need to pronounce the next highest copy when the head of the chain cannot be fully realized phonologically. (This is not necessary under the alternative analyses of the focus *li*-construction.) We have seen empirical evidence that this is the case with head movement and A-movement. As for A'-movement, the issue has been essentially left open so far, though I have hinted above that A'-movement might differ from head movement and A-movement in the relevant respect in that it might not require pronunciation of the next highest copy when the highest copy itself cannot be pronounced. The suggestion was based on Romanian and Bulgarian multiple wh-fronting constructions, discussed in section 3.1.1.2. However, as noted in that section, the relevant data are not completely clear. Furthermore, several interfering factors might have been at work in the constructions in question that have prevented us from drawing a definite conclusion concerning the pronunciation of A'-chains based on them. Under the scattered deletion analysis of (126), we need to assume that one of these factors is indeed making the constructions in question irrelevant

for our current purposes and that A'-movement patterns with head movement and A-movement in that it requires pronunciation of the next highest copy when the highest copy cannot be fully realized phonologically for PF reasons.

4.3.2.4 *Li* as a focal inflection. There is another way of analyzing the constructions under consideration which departs radically from the standard assumption that *li* in the focus *li*-construction is an interrogative complementizer. Suppose that, as in the scattered deletion analysis, the focused constituent in the focus *li*-construction always moves to the Spec of the +wh C, where, in contrast to the scattered deletion analysis, it is always pronounced. As is standardly assumed, the +wh C has the +focus feature. Suppose, however, that this complementizer is not *li* itself. Rather, the complementizer is phonologically null. What about *li*? On this analysis, *li* is treated as a focus particle added to focused elements.⁵⁶ The *li*-marked element moves to interrogative SpecCP for focus checking. (The SpecCP in question must be interrogative. This can be considered a reflex/remnant of the interrogativity of *li*.) Under this analysis, (97a) has the structure in (127), without requiring an exemption from the ban on left-branch extraction, which otherwise holds in Bulgarian. This seems desirable. The analysis also gives us a straightforward account of (126). (The constructions are ruled out on a par with (34) because Bulgarian does not allow left-branch extraction.)⁵⁷

⁵⁶A somewhat similar analysis is proposed in Rudin (1986). Under this analysis it would be most natural to assume that focus *li* is lexically added.

There is a potential phonological argument against this analysis. Bulgarian has a rule of word-final devoicing. Suffixes, which are assumed to be added lexically, generally block this rule, unlike clear clitics. *Li* does not block it. (In this section, I will be glossing *li* as *li*.)

- (i) a. /grád/ → [grát]
city
- b. /grád+ové/ → [grádové]
city plural
- c. /grád+e/ → [gráte]
city is
- d. /grád+li/ → [grátli]
city li

However, Halpern (1995:171) in his discussion of the possessive in Bulgarian observes that the failure to block word-final devoicing does not necessarily prove that we are not dealing with an affix, which should be lexically attached. *Li* could be added at the last, postcyclic level of the lexicon (see Booij and Rubach 1984, 1987 for discussion of this level).

⁵⁷Under this analysis, the restriction on the SC focus *li* with respect to the ability to take a specifier, discussed in section 2.2.1.4, would be restated as a restriction on the C to which the *li* marked element moves. (This C would obviously have to be a different lexical item from the regular interrogative C that does not license focus.)

It is worth noting in this respect that Watanabe (2000) shows that *ka*, which can function as interrogative C in modern Japanese, was a focal inflection in Old Japanese that could be added to either wh-phrases or non-wh-phrases. When added to wh-phrases it had a similar semantic effect as the addition of *li* to wh-phrases in Bulgarian.

- (127) [_{CP} [Novata li kola]_i C prodade t_i]
 new-the li car sold

Notice that either *novata* or *novata kola* can be focused in (127). This is not surprising. Thus, focusing of a subconstituent of a constituent that undergoes focus movement is attested with clefting in English.

- (128) Was it new cars that Peter bought, or old ones?

What about the derivation on which the whole constituent *novata kola* is focused, although only *novata* is marked for focus? We might have at work here the well-known process of focus spread. It is well-known that focus can spread from focus marked constituents to adjacent constituents, as the following example from Chomsky (1971) shows. (Capital letters indicate the element bearing focal stress.)⁵⁸

- (129) Was it an ex-convict with a red shirt that he was warned to look out for?
 No, it was an [_{focus} AUTOMOBILE salesman] that he was warned to look out for.

Constructions such as (122), which were somewhat of a problem for the head movement analysis and completely underivable under the Prosodic Inversion analysis, can also be readily accounted for under the focal inflection analysis. Focusing on (122a), its acceptability is expected, since it appears that there is no reason why the adjective could not carry the focal marker in (122a), given that it can do it in (97a) (see (127)). On the other hand, in (123) the adverb carries the focal

(*Ka* is glossed as Q in (i).)

- (i) a. Itsu-no-ma-ni-ka funade-shi-tsu-ramu?
 when-gen.-second-loc.-Q sailing-do-perf.-would
 ‘When on earth did he sail out?’
 b. Atamitaru tora-ka hoyuru?
 irritated tiger-Q roar
 ‘Is it an irritated tiger that is roaring?’

Watanabe argues that the *ka*-marked element undergoes overt focus movement in Old Japanese. Under the current analysis, Bulgarian focus *li* is treated in essentially the same way as *ka* in Old Japanese.

⁵⁸Focus spread might be more difficult to instantiate under the head movement analysis, though this does not seem impossible. Recall that under this analysis of (97a), *novata* is also marked for a focus feature, which it checks by head moving to *li*. The fact that a copy of *novata* is left behind by the movement might be important in instantiating focus spread. Focus spread might be instantiated in a similar way under the scattered deletion analysis.

Recall that, as noted in section 2.2.1.4, SC and Russian *li* differ from Bulgarian *li* in the relevant respect for unclear reasons.

marker.⁵⁹

Under the focal inflection analysis, *li*-questions have a structure that is very similar to non-*li*-questions, which is not the case under the interrogative complementizer analysis of *li*. Thus, under the focal marker analysis, the noun of the complex wh-phrase in (130a) is located in SpecCP together with the wh-element. (I disregard here the DP Hypothesis.) In multiple questions like (130b), both wh-phrases can be located in SpecCP. This is not the case under the interrogative complementizer analysis, on which the material following *li* in (130) must be located below the CP projection.⁶⁰

- (130) a. [_{CP} [_{NP} Kakva li kniga]_i C [_{IP} prodade t_i]]
 what-kind li book sold
 ‘What kind of a book did he/she/you sell?’
 b. [_{CP} [Koj li]_i kakvo]_j C [_{IP} t_i prodade t_j]]
 who li what sold
 ‘Who on earth sold what?’

The structures in (130) are very similar to structures of wh-questions without *li*.

- (131) a. [_{CP} [_{NP} Kakva kniga]_i C [_{IP} prodade t_i]]

⁵⁹Notice that under the focal inflection analysis, single-constituent focus *li*-constructions such as (i) from section 2.1.1.4 and (117) can be analyzed either as single base-generated elements that do not undergo focus movement (no other structure would be generated), or as involving focus movement+ellipsis, as suggested in section 2.2.1.4. (If *li* is not base-generated on the focused element, the latter analysis is the only option.)

- (i) Az li? Kūštata li? Dnes li? Na masata li? Novata kūšta li? Kogo li?
 I li house-the li today li on table-the li new-the house li whom li
 ‘Me?’ ‘The house?’ ‘Today?’ ‘On the table?’ ‘The new house?’ ‘Whom?’

⁶⁰Recall also the contrast between (ia) and (ib), which under the complementizer *li* analysis falls out from the second position requirement on *li*, as discussed in section 4.3.1.1. The analysis is maintainable under the focal marker analysis of *li*. (Recall, however, that one of my informants accepts (ib). I assume that this speaker has lost the second position requirement on the focus *li*, plausibly as a result of lexicalization of this *li* as a focal inflection. The same could happen to other speakers.)

- (i) a. Koj li kakvo kupuva?
 who li what buys
 ‘Who on earth is buying what?’
 b. *Koj kakvo li kupuva?

An alternative is to assume that the *li*-marked wh-phrase must c-command other wh-phrases in SpecCP. (This could be motivated by assuming focus spread between wh-phrases in SpecCP, with c-command being a condition on the focus spread. Note that the first wh-phrase asymmetrically c-commands the second wh-phrase under the multiple-specifiers analysis of multiple wh-fronting. See Cinque 1996, where it is shown that multiple specifiers can be reconciled with Kayne’s 1994 LCA.)

b. [_{CP} Koj_i kakvo_j C [_{IP} t_i prodade t_j]]

There are certain parallelism between wh-questions with *li* and those without *li* that provide evidence for the focal marker analysis of *li*.

According to Rudin (1988) (see, however, Lambova 2000, in press), a non-wh-phrase cannot intervene between fronted wh-phrases in multiple questions that do not contain *li*. Since, as demonstrated in Rudin (1988), both wh-phrases in (132) are located in SpecCP it is not surprising that non-interrogative material cannot intervene between them.

(132) Koj (*prez poslednata godina) kogo C e viždal šastliv?
 who during last-the year whom is seen happy
 ‘Who saw whom happy during the last year?’

Significantly, as noted in fn. 32, multiple *li*-questions pattern in this respect with multiple questions that do not contain *li*.

(133) Koj li (*prez poslednata godina) kogo C e viždal šastliv?
 who li during last-the year whom is seen happy
 ‘Who on earth saw whom happy during the last year?’

This is straightforwardly accounted for under the focal marker analysis of *li* since under this analysis, both wh-phrases in (133) are located in the interrogative SpecCP, just as in (132). Non-interrogative material then cannot intervene between the wh-phrases for the same reason as in (132). The focal marker analysis thus makes possible a uniform account of (132) and (133). Recall that under the interrogative complementizer analysis of *li*, on which the second wh-phrase in (133) is located below CP, we need an additional assumption to account for (133) (see fn. 32). Furthermore, no uniform account of (132) and (133) is possible under this analysis.

Izvorski (1993) and Kraskow (1994) observe that a subject cannot intervene between a wh-phrase located in SpecCP and the verb in "regular" wh-questions, although, as shown convincingly in Izvorski (1993), the verb in such questions does not move to C.

(134) a. *Kakvo Ana dade na Petko?
 what Ana gave to Petko
 ‘What did Ana give to Petko?’
 b. Kakvo dade Ana na Petko

Izvorski observes that if Bulgarian were to have I-to-C movement in questions, (135b) should be acceptable, just like its English counterpart *What had Maria forgotten about*. (Notice that the

auxiliary, which Izvorski assumes is located in I and therefore should be affected by the I-to-C movement, is not a proclitic on the verb, as shown by (ib) in fn. 14.) Also, the adverb in (136b) should have both the low, manner reading, and the high, subject-oriented adverb reading, just like the adverb in (136a) and English constructions of this type. (Izvorski gives *What did John carefully read*, where the adverb can have either the manner or the subject-oriented adverb reading.) Based on these data, Izvorski concludes that Bulgarian questions do not involve I-to-C.

- (135) a. Maria beše zabravila za sreštata.
 Maria was forgotten about meeting-the.
 ‘Maria had forgotten about the meeting.’
- b. *Za kakvo beše Maria zabravila?
 about what was Maria forgotten
 ‘About what had Maria forgotten?’
- c. Za kakvo beše zabravila Maria?
- d. *Za kakvo Maria beše zabravila?
- (136) a. Petko pravilno odgovori na vŭprosa im.
 Petko correctly answered to question-the they-dat
 ‘Petko did the right thing when he answered their question.’
 ‘Petko gave a correct answer to their question.’
- b. Na kakvo odgovori Petko pravilno?
 to what answered Petko correctly
 ‘*What was Petko right to answer?’
 ‘What did Petko give a correct answer to?’

Izvorski also shows that, in contrast to the subject, an adverb can intervene between the wh-phrase and the verb, as demonstrated in (137).

- (137) Kakvo C izobšto/pravilno/?včera kupi Petko?
 what at all/correctly/yesterday bought Petko
 ‘What did Petko at all/correctly/yesterday buy?’

Significantly, the *li*-construction patterns with the non-*li*-construction in both respects, as shown in (138). (The ungrammaticality of constructions such as (138a) was noted in Izvorski 1993.)

- (138) a. *Kakvo li C Ana dade na Petko?
 what li Ana gave to Petko
 ‘What on earth did Ana give to Petko?’

- b. Kakvo li C izobšto/pravilno/?včera kupi Petko?
 what li at all/correctly/yesterday bought Petko
 ‘What on earth did Petko at all/correctly/yesterday buy?’

This is not surprising under the focal marker analysis, since under this analysis, the constructions under consideration receive essentially the same analysis. They are headed by the same element, namely the null interrogative C. The adjacency effect can be a result of some property of this C. Before concluding the chapter I offer a speculation to this effect. The fact that, as demonstrated below, the data in (134a), (137), and (138a-b) receive a unified account under the focal marker analysis should be interpreted as an argument for this analysis of the focus *li*-construction. In fact, the unified analysis proposed below cannot be maintained if *li* is located in C, since *li* is clearly not a verbal affix, as suggested below for the null C.

A clue as to what is going on in the constructions under consideration is provided by the grammaticality of constructions such as (139).

- (139) Dali Ana dade na Petko knjigata?
 Q Ana gave to Petko book-the
 ‘Did Ana give Petko the book?’

In contrast to the CP in (138a), which under the current analysis is headed by a phonologically weak (in fact, phonologically null) C, the CP in (139) is headed by a phonologically strong non-clitic C *dali*. The subject is allowed to intervene between the verb and the C in (139), in contrast to (138a).

To account for the data under consideration, I suggest that the phonologically null interrogative C in Bulgarian is a verbal affix which must merge with a verb under PF adjacency. (The analysis is based on Chomsky’s 1957 analysis of affix hopping, revived recently in Bobaljik 1994, 1995, Halle and Marantz 1993, and Lasnik 1995c.) This straightforwardly explains the adjacency effect, including the ungrammaticality of both (134a) and (138a). (I return to the adverb intervention effect below.) I demonstrate this with respect to (135)-(136), which show that the verb remains below C in Bulgarian questions. Under the current analysis, the data in question can be accounted for as follows: the subject moves from inside the VP to SpecIP in all the constructions in (135)-(136). The finite verb follows the subject in SpecIP, being located somewhere in the split I. (I leave the precise position open.) In (135a) and (136a), the subject is pronounced in the highest position created by its movement. However, this pronunciation is not possible in (135b-d) and (136b). If the subject is pronounced in SpecIP, as in (135d), it intervenes between the interrogative C, a verbal affix, and the verb. As a result, the affix requirement on the interrogative C cannot be satisfied. To satisfy the requirement, the subject is pronounced in a lower position. As a result, the subject follows the participle in (135c) and the adverb, which follows the subject, can have only

the low, manner reading in (136b). (To have the high, subject-oriented adverb reading, the adverb would have to precede the verb. Notice that I assume that no copy of the subject is present between the auxiliary and the participle, which undergoes overt movement outside of its VP in Bulgarian, as discussed in Bošković 1997d and Izvorski 1993.)

(140) a. [_{CP} Za kakvo C [_{IP} ~~Maria~~ beše zavravila Maria]]

| _____ |

b. [_{CP} Na kakvo C [_{IP} ~~Petko~~ odgovori Petko pravilno]]

| _____ |

What about (137) and (138b)? We could adopt Bobaljik's (1994, 1995) assumption that adverbs (i.e. adjuncts) do not count for the purpose of PF adjacency relevant to merger, motivated by constructions like (141), where I is assumed to merge with the verb.⁶¹

(141) John quickly left.

Alternatively, it is possible that the adverbs in (137) and (138b) are located above the interrogative complementizer, so that they do not intervene between the complementizer and the verb. (They could be located in an additional (lower) SpecCP or C'-adjoined in a more traditional structure.) I return to the issue in section 4.3.2.5.

Howard Lasnik (in press) suggests this type of analysis for English constructions like (141). He suggests that *quickly* (the analysis is extendable to other 'intervening' adverbs in English) can be located above Tense so that it does not interfere with the merger of Tense and the verb.

⁶¹Ochi (1999) gives a deduction of Bobaljik's assumption. He follows Lebeaux (1983, 1988), Chomsky (1993), and Bošković and Lasnik (1999) (see also Stepanov in press) in assuming that adverbs (more precisely, adjuncts) can be inserted into the structure acyclically and shows that given the assumption and the multiple spell-out hypothesis, according to which the phonology has multiple derivational access to the syntax (see Bresnan 1971, Chomsky 1999, 2000, Epstein 1999, Epstein et al. 1998, Uriagereka 1999, and section 4.6), the adverb adjacency problem disappears. For example, the adverb *quickly* in (141), which presumably intervenes between I (more precisely, Tense) and the verb, can be inserted into the structure acyclically after the structure, with I and the verb adjacent, has already been sent to the phonology. PF merger can then take place prior to adverb insertion. The structure is sent again to the phonology after adverb insertion. However, the presence of the adverb is now irrelevant since the merger has already taken place. The derivation in question is given in (i). (Notice that I assume that merger does not involve word reordering here. It simply puts together the [+Past] morpheme, located in I, and the verbal stem. Morphophonological rules of English then determine that the resulting combination should be pronounced *left*.)

(i) a. Send *John I leave* to PF, merge I and *leave* into *left*.

b. Insert the adverb in the syntax and send the structure again to PF.

The analysis can be easily extended to Bulgarian, accounting for the grammaticality of (137) and (138b). Under the Ochi-style analysis, the relevant structures would be sent to the phonology prior to adverb insertion, when the interrogative C and the verb are adjacent, so that the merger can take place unhindered. The adverbs are then inserted acyclically.

Evidence that the adverb can occur above Tense is provided by (142), given that *do* is located under Tense.⁶²

(142) John said that he would leave, and he quickly did.

The current analysis provides a straightforward account of the contrast between (138a), repeated here as (143a), and (143b).

- (143) a. *Kakvo li Ana dade na Petko?
 what li Ana gave to Petko
 ‘What on earth did Ana give to Petko?’
 b. Dali Ana dade na Petko knjigata?
 Q Ana gave to Petko book-the
 ‘Did Ana give Petko the book?’

Dali is clearly not a verbal affix. It is a prosodic word bearing stress and therefore is not expected to be subject to the adjacency requirement the null C is subject to under the current analysis.

The PF merger analysis accounts for the uniform behavior of *li* and non-*li* null C- questions with respect to the adjacency effect, as well as the fact that, in contrast to these two, *dali*-questions do not exhibit the adjacency effect. (Recall again that the uniform analysis of *li* and non-*li*-questions cannot be maintained if *li* is located in C, since focus *li* is clearly not a verbal affix (see (138b).)

The PF verbal affix analysis of the adjacency effect in Bulgarian fits well with the conclusion concerning the interrogative C-insertion in Bulgarian and SC reached in Bošković (1998b, 2000d), where I argue that wh-movement must take place overtly in Bulgarian, but not in

⁶²According to Lasnik, all potentially intervening adverbs pattern with *quickly* with respect to (142), even the adverbs, such as *quickly* itself, that normally occur below auxiliaries (cf. Ochi’s 1999 examples **Peter quickly will leave* and *Peter will quickly leave*). Examples Lasnik gives involve the adverb *completely*. The examples are given in (i).

- (i) a. John will completely lose his mind.
 b. *John completely will lose his mind.
 c. John partially lost his mind, and Bill completely did.

It appears thus that under certain circumstances (ellipsis and avoiding blocking PF merger), certain adverbs can occur higher in the structure than they normally do, a rather curious state of affairs. For relevant discussion, see Oku (1998). Bulgarian (ii) may then be another example where an adverb occurs higher in the structure than it normally does in order not to interfere with PF merger. This could explain the contrast between (ii) and English **What yesterday did Peter buy?*

- (ii) Kakvo včera kupi Petko?
 what yesterday bought Petko
 ‘What did Petko buy yesterday?’

SC (see section 3.3.3 for some evidence to this effect). I attribute the difference to the timing of the interrogative C-insertion in Bulgarian and SC: the interrogative C, whose presence triggers immediate wh-movement, must be inserted in the overt syntax in Bulgarian, but not in SC, hence wh-movement must take place overtly in Bulgarian, but not in SC. Why is there a difference in the timing of C-insertion between the two languages? In Bošković (2000a), I suggest that the same difference exists between French and English and attribute it to a PF requirement on the interrogative C which is present in English, but lacking in French.⁶³ In particular, I suggest that the interrogative C is a PF verbal affix in English, but not in French. As a result, the interrogative C must be inserted into the structure in the overt syntax in English, but not necessarily in French. If the interrogative C were to be inserted into the structure in LF in English, which I argue is a possibility in French and results in wh-in-situ questions, the PF requirement could not be satisfied and the derivation would crash.⁶⁴ Independent evidence for the difference between English and French is provided by the fact that Subject-Auxiliary Inversion is obligatory in English, but not in French questions. (More precisely, the fact that the interrogative C must be adjacent to a verb in PF in English, but not in French indicates that the C is a verbal affix in English, but not in French. See also Bošković 2000a for an explanation why Subject-Auxiliary Inversion does not take place in English embedded questions.)

- (144) a. Qui tu as vu?
 who you have seen
 ‘Who did you see?’
 b. *Who you have seen?

Bulgarian and SC differ in the same way. Thus, the counterpart of Bulgarian (134a), repeated here, is acceptable in SC.

⁶³I correlate the difference with the possibility of wh-in-situ in the two languages. In both languages, insertion of the interrogative C triggers wh-movement. Since, in contrast to English, the interrogative C does not have to be inserted overtly in French, unlike in English, wh-movement does not have to take place overtly in French. (I am disregarding here echo questions.) Under this analysis, the different behavior of the two languages with respect to wh-in-situ is correlated with the different behavior of the two languages with respect to Subject-Auxiliary Inversion, discussed directly below.

- (i) a. Tu as vu qui?
 you have seen who
 ‘Who did you see?’
 b. *You have seen who?

⁶⁴More precisely, the presence of phonological information in LF would cause a crash. (The same thing would happen if, for example, *John* were to be inserted into the structure in LF.) If the English interrogative C (or *John* for that matter) is inserted into the structure overtly, the phonological information from its lexical entry is stripped off when the structure is sent to PF, so that it does not enter LF.

- (145) a. *Kakvo Ana dade na Petko? (Bulgarian)
 what Ana gave to Petko
 ‘What did Ana give to Petko?’
 b. Šta Ana dade Ivanu? (SC)
 what Ana gave Ivan
 ‘What did Ana give to Ivan?’

The difference between Bulgarian and SC can be accounted for if the interrogative C is a verbal affix in Bulgarian, but not in SC. The analysis also accounts for the adjacency effect in Bulgarian questions, as well as the different behavior of the two languages with respect to the obligatoriness of overt *wh*-movement, demonstrated in Bošković (1998b, 2000d). The analysis thus gives us a uniform account of three differences between SC and Bulgarian.

As discussed in Izvorski (1993), the adjacency effect is not present in Bulgarian relative clauses and in questions with the question word *zašto* ‘why’.

- (146) a. Pismoto, koeto deteto napisa, e na masata.
 letter-the which child-the wrote is on table-the
 ‘The letter which the child wrote is on the table.’
 b. Zašto Ivan napusna universiteta?
 why Ivan left university-the
 ‘Why did Ivan leave the university?’

This can be interpreted as indicating that the relative C is not a verbal affix and that *zašto* at least can occur in C. (Notice in this respect that *što* can serve as a complementizer in SC (see Bibović 1971 and Browne 1980) and used to be able to do so in Bulgarian.)

4.3.2.5 Stylistic fronting in Icelandic. The account of the adjacency effect in Bulgarian *wh*-questions can be extended to the stylistic fronting construction in Icelandic to account for the notorious subject gap restriction on stylistic fronting noted by Maling (1980), which has resisted a satisfactory account.

Stylistic fronting in Icelandic affects a variety of different elements, including participles, adjectives, adverbs, particles, and prepositions. ((147b-c) are taken from Maling 1980 and (147d-f) from Jónsson 1991. The elements undergoing stylistic fronting in (147) are underlined.)

- (147) a. Þetta er maður sem ekki hefur leikið níttíu leiki.
 this is a man that not has played ninety games
 ‘This is a man that has not played ninety games.’
 b. Það var hætt að rigna þegar komið var þangað.

- it was stopped to rain when arrived was thither
 ‘It had stopped raining when they/we arrived there.’
- c. Þetta er bærinn þar sem fæddir eru margir frægustu menn þjóðarinnar.
 this is the town where born are many most-famous men the nation.gen
 ‘This is the town where many of the most famous men of the nation were born.’
- d. Þetta eru tillögurnar sem um var rætt.
 these are the proposals that about was talked
 ‘These are the proposals that were discussed.’
- e. Þegar fram fara kosningar er alltaf mikið fjör.
 when forth go elections is always a lot of action
 ‘When elections are held, there is always a lot of action.’
- f. Sá sem fyrstur er að skora mark fær sérstök verðlaun.
 he that first is to score a goal gets a special prize
 ‘The first one to score a goal gets a special prize.’

Maling (1980) observes a curious restriction on stylistic fronting: the subject (i.e. SpecIP) in sentences involving stylistic fronting cannot be lexically realized. Thus, the constructions in (147), where the clauses involving stylistic fronting have a null subject (wh-trace or a null expletive), contrast with (148) with respect to the possibility of stylistic fronting.

- (148) a. *Þetta er bærinn þar sem fæddir margir frægustu menn þjóðarinnar eru.
 this is the town where born many most-famous men the nation.gen are
 b. *Þetta er bærinn þar sem margir frægustu menn þjóðarinnar fæddir eru.

Several authors (see Maling 1980, Ottósson 1989, Platzack 1987, and Røngvaldsson and Thráinsson 1990) have tried to account for the subject gap restriction by assuming that the landing site of stylistic fronting is the subject position (SpecIP). This analysis is obviously problematic. Given the kind of elements that are affected by stylistic fronting it seems implausible that its landing site is the subject position, i.e. SpecIP. Also, it is far from clear that SpecIP would be free for, for example, the negative marker to move to in constructions like (147a). In fact, SpecIP should be filled by a trace of the null operator/relative head. (For another serious problem with the analysis, see fn. 66. Notice also that the analysis rests on the assumption that heads can move to a specifier, which is generally assumed not to be allowed.) Other authors (see Holmberg and Platzack 1995, Jónsson 1991, Poole 1992, 1996, Santorini 1994, among others) have proposed that stylistic fronting involves adjunction to I, where the finite verb is located. This analysis cannot account for the subject gap restriction in a non-stipulatory way.

Applying the account of the adjacency effect in Bulgarian wh-questions to stylistic fronting gives a straightforward account of the subject gap restriction. Suppose that elements affected by

into the structure, as in (150a), it obligatorily triggers stylistic fronting. When F is not inserted into the structure, which I assume is the case in (150b), stylistic fronting does not and cannot take place. There is then nothing optional syntactically about stylistic fronting, which is conceptually desirable from the current theoretical point of view.

It is worth noting here that adverbs cannot occur between a stylistically fronted element and the verb (cf. (147a)).⁶⁶

- (151) *Þetta er maður sem ekki í dag/á Íslandi/í gær hefur leikið nítíu leiki.
 this is a man that not today/in Iceland/yesterday has played ninety games
 ‘This is a man that has not played ninety games today/in Iceland/yesterday.’

If we adopt the Bobaljik/Ochi analysis of the lack of interaction of adverbs and PF merger, which exempts adverbs from interfering with PF merger, we would have to stipulate that adverbs cannot be inserted between the stylistically fronted element and the verb (i.e., that there is no proper position for adverbs between the two). The desired result can be achieved in a more principled way under the alternative analysis of the lack of the adjacency effect in the Bulgarian (137) and (138b) and the English (141), which does not exempt adverbs from adjacency relevant to PF merger and accounts for the lack of the adjacency effect in the constructions in question by placing the adverbs above the null heads undergoing merger. (Recall that under this analysis, the adverbs in the constructions in question are either located in a lower SpecCP (Bulgarian)/SpecIP (English) or C’ (Bulgarian)/I’ (English)-adjoined.) Most authors (see Holmberg and Platzack 1995, Jónsson 1991, Poole 1992, 1996, Santorini 1994, among others) assume that stylistic fronting involves head movement, which under the current analysis is instantiated as left-adjunction to F, in accordance with Kayne’s (1994) LCA.⁶⁷ Given that stylistic fronting involves head movement, there is simply

⁶⁶Jónsson (1991) observes that parentheticals also cannot occur between a stylistically fronted element and the verb.

- (i) Ég hélt að byrjað, (*eins og María hafði sagt) yrði að opna pakkana strax eftir kvöldmatinn.
 I thought that started like Maria had said would-be to open the presents right after supper

Interestingly, as observed by Jónsson, a parenthetical can occur between a subject and the verb.

- (ii) Ég hélt að Jón, eins og sannur skáti, myndi hjálpa gömlu konunni að komast yfir götuna.
 I thought that Jón like a true scout would help the old lady to cross the street

The contrast between (i) and (ii) argues against analyses that place stylistically fronted elements in SpecIP.

⁶⁷Stylistic fronting is generally restricted to heads (see, however, Holmberg and Platzack 1995:115). Notice, for example, that the participle and the adjective alone undergo stylistic fronting in (i), taken from Jónsson (1991), leaving their complements behind.

no space between the stylistically fronted element and the null head undergoing merger with the verb for the adverbs to intervene. No specifier or XP/X'-adjoined position is available, as in the English and Bulgarian constructions in question. We therefore seem to have here evidence that adverbs do count for the purpose of PF adjacency relevant to merger, i.e., that they block PF merger, just like other phonologically realized elements. This is certainly the null hypothesis (see section 4.6.2, in particular, example (198), for additional evidence that adverbs interfere with PF merger). This means that the analysis that accounts for the grammaticality of the Bulgarian (137) and (138b) and the English (141) by placing the adverb above the null heads undergoing merger is to be preferred to the analysis that accounts for such constructions by making adverbs irrelevant to PF merger.

4.4. CONCLUDING REMARKS

To summarize the discussion in the preceding sections, we have seen that even cases where a superficially syntactically immobile element hosts a clitic do not necessarily provide evidence for Prosodic Inversion. Providing an argument for Prosodic Inversion is much harder than generally thought in the literature. In fact, one of the main conclusions of this book is that there is no argument for Prosodic Inversion (or more extensive applications of Move in the phonology, as in Radanović-Kocić's 1988, 1996 analysis) from Slavic clitic placement. This is an important conclusion in light of the fact that Slavic cliticization has been claimed to provide some of the strongest arguments for Prosodic Inversion, which in turn presents one of the strongest arguments for the possibility of PF movement. Questioning Prosodic Inversion then necessarily implies

-
- (i) a. þetta er maður sem leikið hefur t_i níttíu leiki.
 this is a man that played has ninety games
 'This is a man that has played ninety games.'
- b. Þeir sem ánægðir eru t_i með kaupíð kvarta ekki
 those who content are with the pay complain not
 'Those who are content with the pay do not complain.'

Notice also that stylistic fronting does not seem to have any semantic or pragmatic effects. This is not surprising under the head movement analysis since head movement generally lacks such effects (see Chomsky 1999). The fact that stylistic fronting is clause-bound also fits well with the head-movement analysis. One question that arises under the current head movement analysis is whether head movement to F violates locality restrictions on movement. Strictly speaking, the movement does violate the Head Movement Constraint. However, the movement does not raise any problems with respect to locality under the feature-checking approach to locality, as long as the intervening heads do not possess the feature that drives stylistic fronting. (Notice in this respect that elements that can in principle undergo stylistic fronting observe a hierarchy with respect to which of them can undergo stylistic fronting that appears to be structural (see Maling 1980 and Jónsson 1991, among others). The hierarchy can be readily captured under the feature-checking approach to locality (i.e. under Chomsky's 1995 Attract Closest).) The movement is also consistent with Roberts' (1992) and Rivero's (1991) relativized minimality version of the Head Movement Constraint if, for example, F in (149a) is an A'-head and the heads *ekki* crosses are A-heads, certainly plausible assumptions.

questioning the possibility of PF movement in general. I have provided evidence that PF can affect word order, though not through actual PF movement. PF affects word order by determining which copy of a non-trivial chain should be pronounced, as well as through a filtering effect on the output of the syntax. Another case where PF affects word order without actual application of the operation Move has been recently uncovered by Lasnik (1999).

Lasnik shows that certain movements that normally have to take place do not take place if the item that normally has to move is part of an ellipsis site. One such example comes from sluicing. Saito and Murasugi (1990) and Lobeck (1990) analyze sluicing as wh-movement followed by IP ellipsis, which Lasnik assumes involves PF deletion. (For arguments that ellipsis involves PF deletion see Tancredi 1992, Chomsky and Lasnik 1993, and Lasnik 1999.) An example of sluicing, involving sluicing in a matrix clause, is given in (152).

- (152) a. Speaker A: Mary will see someone.
 b. Speaker B: Who ~~Mary will see~~?

The syntactic structure of (152) should be something like (153), with irrelevant details ignored.

- (153) $[_{CP} \text{Who}_i \text{C } [_{IP} \text{Mary will } [_{VP} \text{see } t_i]]]$

Lasnik observes that given the standard assumption that sluicing involves IP ellipsis, the source for the sluicing example must be something like (152b), rather than, for example, (154). If the latter were the source the elided material would have to be C', an intermediate projection, rather than IP.

- (154) Who will Mary see?

Lasnik then raises the following question: since the source of sluicing for (152) does not have I raising to C, why is that source ungrammatical without sluicing?

- (155) *Who Mary will see?

Lasnik provides the following answer to the question: under the theory of Chomsky (1993), there must be a strong feature driving overt raising of I. Lasnik proposes that the strong feature resides in I. He furthermore assumes Chomsky's (1993) definition of strength, where a strong feature that is not checked in the overt syntax ultimately results in a PF violation. Bearing in mind these assumptions, consider again (153), with the strong feature indicated:

- (156) $[_{CP} \text{Who}_i \text{C (F) } [_{IP} \text{Mary will (strong F) } [_{VP} \text{see } t_i]]]$

If I does not move to C and nothing further happens in the derivation, a PF crash obtains. This is the reason for the unacceptability of (155), where the strong feature of I is unchecked. But if the IP is deleted in PF, the strong feature, which is contained in it, is simply not present at PF. We then derive (152) without a PF violation.⁶⁸

What we are dealing with in the sluicing construction in question is a PF ellipsis operation affecting syntactic movement possibilities outside of the ellipsis site. In other words, we have PF affecting word order without actual PF movement, just as in the number of other cases discussed in this book. In both Lasnik's case and the cases presented in this chapter the relevant PF operation is deletion, the former involving ellipsis deletion, and the latter copy deletion. (Recall that PF can also affect word order by filtering out certain syntactically well-formed word orders. This can lead to rather drastic effects on word order, as discussed in chapter 2.)

What about PF movement then? A number of constructions have been suggested to involve PF movement, for example, traditional rightward movement constructions (heavy NP shift, right node raising, and extraposition) and scrambling. In most cases, this is not because such constructions are particularly amenable to a PF movement analysis, but because they do not fit well in the syntax, given the syntactic apparatus available. The argument for PF movement from these constructions is thus essentially negative.⁶⁹ There are, however, some instances where the case for PF movement is stronger. Among these, Prosodic Inversion stands out. In fact, Prosodic Inversion seems to me to be the strongest case ever made for PF movement. The reason for this is that in this instance of putative PF movement, we are dealing with a clearly defined movement operation, with a precise phonological motivation and explicitly defined locality restrictions sensitive to phonological information, which is generally not a characteristic of other putative examples of PF movement. Some of the strongest arguments for Prosodic Inversion in the literature come from South Slavic cliticization. In this volume I have shown that not only does South Slavic cliticization not provide evidence for Prosodic Inversion (or any kind of PF movement for that matter), it in fact provides strong evidence against it. Cliticization in most other languages where Prosodic Inversion

⁶⁸Lasnik also presents an alternative Move F analysis that does not involve positing strong features in moving elements and does not crucially require assuming Chomsky's (1993) definition of strength. The gist of the analysis is, however, the same as the one summed up in the text: a syntactic representation containing an element X, which would normally cause a crash in PF, is saved by deleting in PF a phrase that contains X. Lasnik (1999) provides a similar analysis of pseudogapping, illustrated by (i). He claims that both the verb and the direct object normally move overtly outside of VP in English, with the verb moving above the direct object. In (i), this verb movement does not take place in the main clause. According to Lasnik, the lack of verb movement would normally result in a PF violation. (i) avoids the PF violation by deleting a phrase containing the unmoved verb, which, according to Lasnik, is the source of the violation (for some discussion of verb movement in the pseudogapping construction, see also Boeckx and Stjepanović in press).

(i) If you don't believe John, you will the weatherman.

⁶⁹See, however, McCloskey (1999) and Truckenbrodt (1995), who argue for a PF treatment of certain rightward movements, and Taraldsen (1981) and Kayne (2000) for some potential problems for their position.

has been suggested to play a role in (generally second position cliticization languages) still awaits the kind of extensive and detailed scrutiny South Slavic cliticization has been subjected to. It is my hope that this study can provide tools, tests, and alternative theoretical mechanisms needed to carry out the necessary investigation. Still, the task will not be easy since, as noted in chapter 2, most relevant languages are not as readily accessible as the languages studied here. (In fact, quite a few of them are no longer spoken.) Any investigation of these languages that would still end up endorsing Prosodic Inversion (or some other type of PF movement) would need to revisit the South Slavic data discussed in this work, which argue against it. Pending this, I conclude that the mechanism of Prosodic Inversion is not available in natural language. Since with Prosodic Inversion we lose one of the strongest argument for PF movement, I also tentatively conclude that although PF operations and mechanisms, such as ellipsis deletion, copy deletion, and filtering, can affect word order, this cannot be done through actual PF movement. Recall also that, as discussed in chapter 2, syntax can do its job without caring about the needs of phonology. More precisely, syntactic movement cannot be motivated by purely phonological considerations.⁷⁰

4. 5. APPENDIX A: SECOND POSITION CLITICS IN MACEDONIAN

We have seen above that, in contrast to Bulgarian clitics, which are enclitics, Macedonian clitics are proclitics; they attach to the left of their host.

However, as discussed in Tomić (1996a, 1997, 1999a, 2000), there is a remnant of the second position clitic effect in Macedonian. The second position clitic effect is present in constructions with non-verbal predicates. The following Macedonian constructions involving procliticization are unacceptable:

- (157) a. *Mi e mil Petko.
 me.dat is dear Petko
 ‘Petko is dear to me.’
 b. *Mi e tatko.
 me.dat is father
 ‘He is my father.’

Tomić observes that the constructions improve if the enclitic option is made available:

⁷⁰Zubizarreta (1998) argues that one type of prosodically motivated movement takes place in the syntax. However, Zubizarreta also places the prosodic mechanism that drives her prosodic movement in the syntax, so that we are not dealing here with a real look-ahead from the syntax into the phonology. The reader is also referred to Stjepanović (1999a), who shows with respect to SC that the kind of phenomena Zubizarreta (1998) is concerned with can be handled without any kind of movement, or intrusion of phonology into syntax, by employing the mechanism of pronunciation of lower copies.

- (158) a. Mil mi e Petko.
b. Tatko mi e.

Notice, however, that it is not simply the case that the clitics in the constructions in question must attach to their left, i.e., that they must be suffixes. They are also subject to the second position requirement. Thus, the constructions in (159a-b), where the clitics are attached to their left but the second position requirement is not satisfied, are ungrammatical. Notice also that, like SC second position clitics (see section 2.2.2.2.9), the clitics in the constructions in question can occur in the third position of their clause, as long as they are second within their intonational phrase, as illustrated (159c-d). In fact, as in SC, even (159a-b) become acceptable if *Petko* receives emphatic stress and is followed by a pause, an indication of an I-phrase boundary. Finally, as in the case of SC second position clitics, the clitics in the Macedonian constructions under consideration have no requirements on the categorial status of their host. They do not have to be hosted by the predicate of the sentence ((159e-g)). ((159a,b,g) are from Tomić 1996a.)

- (159) a. *Petko tatko mi e.
b. *Petko mil mi e.
c. Čovekot što ga sretnav minatata godina vo Paris # mil mi e.
man-the that him.acc met last-the year in Paris dear me.dat is
'The man you met last year in Paris is dear to me.'
d. Čovekot što ga sretnav minatata godina vo Paris # tatko mi e.
man-the that him.acc met last-the year in Paris father me.dat is
'The man you met last year in Paris is my father.'
e. Petko mi e mil.
f. Petko mi e tatko.
g. Mnogu si mi mil.
much are me.dat dear
'You are very dear to me.'

Apparently, Macedonian clitics are subject to the second position requirement in the contexts under consideration. How do we formally instantiate the remnant second position effect?⁷¹ One way of doing this is as follows.

Suppose that there are two sets of clitics in the lexicon: verbal clitics, which are proclitics and required to take a verbal element as their host, and second position clitics, which, like their SC

⁷¹Notice that Macedonian clitics have undergone or, more precisely, are undergoing, a change from a full-blown second position clitic system to a verbal clitic system. For relevant discussion, see Tomić (1996a, 1997, 1999a, 2000). See also Legendre (1998) for an Optimality Theory account of the remnant second position effect in Macedonian. For much relevant discussion, see also Franks (2000).

counterparts discussed in chapter 2, have the following lexical specification:

- (160) a. #_
 b. Suffix

In the constructions discussed above, the second position clitic option is forced for a trivial reason: no verbal host is available. Since the verbal clitic option is more permissive than the second position clitic option in constructions in which a proper verbal host is available, it appears that allowing in principle the second position clitic option in constructions where a verbal host is available would not have any undesirable consequences. This is true with one exception. In the configuration in (161a), the second position clitic option would allow the pronunciation of a lower copy of the clitic, resulting in the V clitic order (161b). The verbal clitic option would enforce the preferred pronunciation of the head of the clitic movement chain (161c). (This pronunciation is possible, hence obligatory.)

- (161) a. Clitic V clitic
 b. ~~Clitic~~ V clitic
 c. Clitic V ~~clitic~~

As discussed in section 4.1, the S-Structure in (161a) yields (161c), not (161b). Therefore, it appears that we do need to block the second position clitic option in the environment in question. It seems plausible that something like morphological blocking is at work here: the possibility of a more specific clitic option that requires a verbal host blocks the second position clitic option, which has no specific requirement on the category of the host.⁷²

I turn now to the question of what kind of verbal elements host non-second position clitics in Macedonian. If, as argued by Joseph (1983:110-117), the so-called *l*-participle, used in auxiliary+participle constructions discussed in sections 4.2 and 4.3, is a finite element, most verbal elements that host clitics in the examples given so far are finite verbal elements. As a result, on the basis of the data examined so far we cannot tell whether verbal clitics can take as their host any verbal element or only finite verbal elements. Data discussed in Tomić (1996a, 1997, 1999a, 2000) indicate that only finite verbal elements can host non-second position clitics (see these works for much relevant discussion). However, there seems to be a change in progress that is turning the clitics in question into simple verbal clitics without a more specific requirement on the nature of

⁷²This can be naturally captured in the Distributed Morphology framework, where phonological lexical information, which distinguishes the two clitic options, is inserted after the derivation passes through the syntactic component.

The desired result of forcing the verbal clitic option when a proper verbal host is available could also be easily achieved with a constraint-ranking mechanism. However, since under such an account the result would be achieved through stipulated constraint ranking, it would not be explanatory.

their verbal host. In (162) we have a participial form that is, according to Joseph, nonfinite. The data in question indicate that the clitics in this construction are second position clitics rather than simple verbal clitics. (They occur in the second position (see the contrast between (162c) and (162d)) and do not have to be adjacent to the verb.) These data can be accounted for if non-second position clitics must be hosted by a finite verbal element. ((162a-b) and (163) and (164a) below are from Tomić 2000.)

- (162) a. Rečeno mu e da bide točen poveќе pati.
told him.dat is to be punctual more times
'He was told to be punctual more than once.'
- b. Na Petreta mu e poveќе pati rečeno da bide točen.
To Peter him.dat is more times told to be punctual
'Peter was told to be punctual more than once.'
- c. *Na Petreta rečeno mu e da bide točen poveќе pati.
- d. Na čovekot što ga sretnav minatata godina vo Paris # rečeno mu e da bide
to man-the that him.acc met last-the year in Paris told him.dat is to be
točen poveќе pati.
punctual more times
'The man you met last year in Paris was told to be punctual more than once.'

However, the fact that the following construction is only slightly marginal indicates that there might be a change in progress that is eliminating the finiteness requirement on verbal clitics. Alternatively, the participle in the construction in question might be marginally analyzable as a finite form. I will assume the latter here. (For much relevant discussion, see Tomić 1996a, 1997, 1999a, 2000 and Franks and King 2000.)

- (163) ?Mu e rečeno da bide točen poveќе pati.
him.dat is told to be punctual more times
'He was told to be punctual more than once.'

Notice also that, as expected, the clitic in the construction in question, which instantiates the proclitic option, can occur in the third position of its clause, but then has to be adjacent to the verb.

- (164) a. Na Petreta poveќе pati mu e rečeno da bide točen.
to Peter more times him.dat is told to be punctual
- b. *Mu e poveќе pati rečeno da bide točen.

However, one should bear in mind that if we are indeed dealing here with a change in progress, i.e.

with a system in flux, care must be taken when drawing theoretical or empirical conclusions based on clitic constructions involving non-finite verbal elements in Macedonian.

Notice also that with two other non-finite verbal forms, imperatives and gerunds, clitics must follow the verb. (165b,e) are significantly degraded. It is possible that, as often proposed for some Romance non-finite forms (for relevant discussion, see Kayne 1991, Rivero and Terzi 1995, Rooryck 1992, Silva-Villar 1998, and Zanuttini 1997, among others), the reason for this is that the non-finite verbal elements in question undergo movement to a position above the clitics. Notice that, as observed in Franks (1998a), providing another host for the clitics in (165b,e) does not help as it did with (157). (For recent discussions of Macedonian and/or Bulgarian imperatives and/or gerunds (Bulgarian is discussed below), see Anderson 1996, Caink 1998, Chung-Hye 1998, Franks 1998a, Franks and King 2000, Legendre 1998, 1999, Miyoshi in preparation, and Tomić 1996a, 1997, 1999b.)

- (165) a. Donesi mi go!
 bring me.dat it.acc
 ‘Bring it to me!’
- b. *Mi go donesi!
- c. *Penkaloto/ut্রে mi go donesi!
 pen-the/tomorrow me.dat it.acc bring
- d. Davajki mi go...
 giving me.dat it.acc
 ‘Giving it to me...’
- e. *Mi go davajki...
- f. *Penkaloto/nemarno mi go davajki...
 pen-the/carelessly me.dat it.acc giving

Assuming that, as in other constructions discussed above, the verb and the pronominal clitics form a syntactic cluster at some point, a question that arises under the verb movement to a higher position analysis is why clitics are apparently left behind by V-movement in imperatives and gerunds but not in neutral yes-no question *li*-constructions, where the clitics move together with the verb to *li*, as discussed in section 4.3.1. In the *li*-construction, V-excorporation out of the clitic-V complex was blocked by the condition in (38). The condition, however, also blocks V-excorporation in imperatives and gerunds. So, under the-movement-to-a-higher-position analysis, we need to find a principled way of ensuring that pronominal clitics move together with the verb in the *li*-construction, but not in imperatives and gerunds. Since it is not obvious how this can be achieved in a principled way, I will explore an alternative based on Miyoshi (in preparation). The alternative analysis, which is proposed by Miyoshi (in preparation) for imperatives in several languages (in particular, Italian, Spanish, and Greek, but not Macedonian and Bulgarian, for which

Miyoshi presents a different analysis), is based on the assumption that constructions in question contain a functional head (possibly a complementizer) which is a PF affix that must merge with the verb under PF adjacency. Even if clitics in the syntax precede the verbal forms in question, they still have to be pronounced below the verb in order not to block PF merger of the affix and the verb. (Irrelevant copies are ignored throughout the appendix. Notice that we do not necessarily have to have the same affix head in imperatives and gerunds.)

(166) F ~~clitics~~ V clitics
+affix

This analysis straightforwardly accounts for the data in (165). The ungrammatical constructions in (165) are ruled out because the affix head cannot merge with the verb due to the intervening material. In addition, *mi go*, which must encliticize in the contexts in question (it is important to bear this in mind during the discussion of Macedonian imperatives and gerunds), fail to be properly supported in (165b,e). (This is not the case in (165c,f).) Anyway, all the ungrammatical constructions in (165) contain a stranded PF affix under the current analysis and are thus straightforwardly ruled out.⁷³

⁷³Although under the current analysis the verb and the clitics are not pronounced in the same head position, they still must be adjacent, as observed in Franks (1998a).

- (i) a. *Donesi utre mi go!
bring tomorrow me.dat it.acc
'Bring it to me tomorrow!'
b. *Davajki nemarno mi go...
giving carelessly me.dat it.acc
'Giving it to me carelessly...'

Since we are dealing here with a second position environment, (ia-b) can be ruled out due to a violation of the second position requirement.

However, the constructions in (ii) seem acceptable even when no pause precedes the verb. This could be problematic, since we might have here a violation of the second position requirement. (This is so if we assume that all I-phrase boundaries are phonetically manifested as pauses, which is not the case. Notice incidentally that adjuncts are sometimes less reliable than arguments in this respect, see Schütze 1994. Notice also that **penkaloto davajki mi go...* is unacceptable.)

- (ii) a. Utre donesi mi go!
tomorrow bring me.dat it.acc
b. Nemarno davajki mi go...
carelessly giving me.dat it.acc
c. Penkaloto donesi mi go!
pen-the bring me.dat it.acc

It is possible that instead of the second position requirement, with imperatives and gerunds we simply have an encliticization requirement, possibly with required adjacency to a verb but not the verb host requirement (see the discussion below), as a transition to verbal procliticization (in this respect, see also the discussion of Bulgarian in

Let us now turn to negative constructions. Consider (167):

- (167) a. Ne donesi mi go!
 not bring me.dat it.acc
 ‘Don’t bring it to me!’
 b. Ne davajki mi go...
 not giving me.dat it.acc
 ‘Not giving it to me...’

Applying the above analysis to these constructions, we get the following structures:

- (168) a. F ne ~~mi-go~~ donesi ne mi go!
 +affix
 b. F ne ~~mi-go~~ davajki ne mi go!
 +affix

Apparently, in contrast to pronominal clitics, *ne* does not block PF merger of the verb and the affix. The reason for this is that, in contrast to pronominal clitics, which encliticize in the contexts in question, the negation can form one phonological word with the following verb so that in spite of the presence of the negation, the affix is adjacent to the phonological word it needs to merge with. Clearly, the relevant adjacency relation between an affix X and a stem Y has to be able to ignore affix-type elements *supported by* (i.e. *merged with*) Y intervening between X and Y, otherwise, we would not be able to merge two affixes to Y (located on the same side of Y), since the one closer to Y would block the merger of the more distant affix. The appeal to phonological words solves the potential problem. Merger is thus not blocked in (168) because F is adjacent to the phonological word it needs to merge with, which contains the verb.⁷⁴

section 4.3.1.1). Recall that Macedonian is in the process of completely losing second position cliticization, which is being replaced by verbal procliticization. Imperatives and gerunds may have gone further in this process than *n*-participles, another non-finite form (cf. the second position effect in (162c-d)). The fact that constructions in which anything but the verb hosts a clitic even on the encliticization option are very rare with imperatives and gerunds due to independent factors, discussed above, might be speeding up the loss of the second position cliticization requirement with imperatives and gerunds.

⁷⁴Notice that if both the negation and the pronominal clitics were to be pronounced in the highest position, the pronominal clitics would have to encliticize to the negation since we are dealing here with an encliticization environment, the verbal form not being finite. This would force us to choose the stressed form of the negation, which is available in at least the North-Western dialect in addition to the unstressed form, which attaches to the verb. As a result of this, a phonological word (*NEmigo*, with the negation stressed) would intervene between the affix and the verb, blocking their merger and thus causing a PF violation. (*NEmigo* in fact forms a phonological word in (169) below, phonological constituency of which is [NEmigo] [DOnesi].) For much relevant discussion of prosodic properties of negation in imperative sentences in Macedonian, as well as Bulgarian, see Tomić (1999b).

Franks notes one more option for negative imperatives, which according to Tomić (1999b) is restricted to the North-Western dialect of Macedonian, (167a) being used in Standard Macedonian. (The corresponding gerund, *Ne mi go davajki* ‘not giving it to me’, is unacceptable even in this dialect, as noted in Franks 1998a. Notice that (165b) is also unacceptable in this dialect.)

(169) Ne mi go donesi!

How can we derive this construction given that, as noted in fn. 74, *nemigo* forms a phonological word and thus should block merger of the imperative affix and the verb? I suggest that in the dialect in question, the affix head has, or may have, a neg-feature, which must be checked against a negative element. Recall that *ne mi go donesi* form a syntactic cluster. Since (38) blocks excorporation of the negative marker from the cluster (the negative marker is stressed in this construction), the whole cluster *ne mi go donesi* must move to the affix head to check its negative feature. I assume that the cluster left-adjoins to the affix head.

(170) [Ne mi go donesi]+F [ne mi go donesi]
 +affix
 +neg

Since the affix is adjacent to the verb even if the whole cluster is pronounced in the raised position, the cluster may be, and must be, pronounced in the raised position. We thus derive (169). The only difference between the dialect which accepts (167a) and the dialect which accepts (169) is that in the latter, but not in the former, the affix head may have a negative feature. Since the sequence negation-pronominal clitics-verb, illustrated by (171), is unacceptable in gerunds in both dialects I conclude that the affix head in gerunds uniformly lacks the negative feature.

(171) **Ne mi go davajki...*
 not me.dat it.acc giving
 ‘Not giving it to me...’

Before closing this appendix a note is in order on imperatives and gerunds in Bulgarian. As observed in Franks (1998a), there is no difference in clitic placement between finite constructions and imperatives in Bulgarian. The verb precedes pronominal clitics only if a clitic-verb sequence would make encliticization impossible. (Recall that Bulgarian clitics are enclitics. All the constructions in (172)-(176) are taken from Franks 1998a.)

(172) a. Donesi mi go!

bring me.dat it.acc

‘Bring it to me!’

b. Ja mi go donesi!

hey me.dat it.acc bring

‘Hey, bring it to me!’

c. Konjaka mi donesi!

cognac-the me.dat bring

‘Bring me the cognac!’

The account of clitic placement in finite clauses readily extends to clitic placement in imperatives. As discussed in section 4.1 for finite clauses, a copy of the clitics is present both above and below the verb. The higher copy of the clitics is pronounced unless the pronunciation of the higher copy makes encliticization impossible, in which case the lower copy is pronounced.

(173) a. ~~Mi~~go donesi mi go!

b. Ja mi go donesi ~~mi~~go!

c. Konjaka mi donesi ~~mi~~!

Franks (1998a) observes that Bulgarian gerunds in some respects behave like Macedonian gerunds. However, their behavior is not completely identical. Consider first the following constructions.⁷⁵

(174) a. ?Bürzo mu donasjajki konjaka...

quickly him.dat bringing cognac-the

‘Quickly bringing him the cognac...’

b. Bürzo donasjajki mu konjaka...

c. ??Konjaka mu donasjajki...

cognac-the him.dat bringing

‘Bringing him the cognac...’

d. Konjaka donasjajki mu...

The data in (174) can be accounted for if the affix head F is only optionally present in Bulgarian gerunds or if F is always present but has both the affix and non-affix form. (174b,d) represent the affix option and have the following structure, with the clitic pronounced in a lower position in

⁷⁵I repeat here the judgments given in Franks (1998a). As noted below, there is some disagreement among speakers concerning the status of (174a,c).

order not to block the merger of the affix head and the verb.⁷⁶

- (175) Adverb/NP F clitic V clitic
 +affix

(174a,c) represent the non-affix option. Since on this option, which is apparently only marginally available, there is no need to pronounce the clitic in a lower position, the clitic is pronounced in the highest available position, preceding the verb.

Consider now the negative sentences in (176).

- (176) a. Ne mu donasjajki konjaka...
 not him.dat bringing cognac-the
 ‘Not bringing him the cognac...’
 b. Ne donasjajki mu konjaka...

Bulgarian patterns with Macedonian in the relevant respect. The data in (176) can be accounted for given that both the affix and the non-affix option are available in Bulgarian, as proposed above. The V-clitic order would instantiate the affix option for F and the clitic-V order the non-affix option (i.e. either non-affix F or the absence of F).⁷⁷ Recall, however, that the non-affix option is only marginally available. The fact that (176a) is fully acceptable, in contrast to (174a,c), can be interpreted as indicating that (176a) should not be derived in the same way as (174a,c). I therefore assume that (176a) should be derived in the same way as proposed above for its Macedonian counterpart. For speakers who accept such constructions, F is endowed with a negative feature, which forces left-adjunction of *ne mu donasjajki* to F. The Bulgarian case is then slightly more complicated than the Macedonian case. Both Macedonian and Bulgarian have the affix head in gerunds. In both languages, at least in some dialects the affix head can have a negative feature. In addition, the non-affix head option, which is not available in Macedonian, is marginally available in Bulgarian. The difference between Bulgarian and Macedonian accounts for the contrast between (174a,c) and (165f).

The analysis presented in this appendix admittedly has some rough edges. However, this is inevitable. We are dealing here with a system in flux, with a lot of internal conflicts (in fact, the

⁷⁶Notice that for some speakers, (174a,c) are completely unacceptable. (The same holds for (176a) below, which is, however, somewhat better than (174a,c) for the speakers in question.) This means that for these speakers, the affix derivation is the only possibility.

⁷⁷As in Macedonian, the negation forms one phonological word with the verb following it, so that it does not block merger of the affix F and the verb. Recall also that when immediately followed by a clitic, the negation causes the clitic to assume stress and forms one phonological word with the clitic. As a result, intervening *ne mu* blocks merger of the affix F and the verb. This causes the pronominal clitic to be pronounced in a lower position following the verb on the affix F option.

word *system* might be too strong at this point), which in the course of time will be resolved. It is also worth emphasizing that the current analysis provides an account of the very complex pattern of exactly when Macedonian clitics procliticize and when they encliticize, which alternative analyses generally do not do for the full relevant paradigm.

4.6. APPENDIX B: MULTIPLE SPELL-OUT

Several recent works (see Ausín 2000, Boeckx 1999a, Chomsky 1999, 2000, Epstein et al. 1998, Ochi 1999, Uriagereka 1990, among others) have revived Bresnan's (1971) proposal that phonology has multiple, derivational access to the syntax, which eliminates PF as a level of representation. The discussion so far has been couched in the standard model, with one point of interface between the syntax and the phonology. However, nothing in the discussion crucially depends on adopting that model instead of the multiple spell-out model. In this appendix we will see that certain facts concerning cliticization in coordinate structures in Bulgarian require adopting the multiple spell-out model, in particular, the phase-based approach to multiple spell-out put forward in Chomsky (1999, 2000).⁷⁸ I will then show that similar arguments for multiple spell-out can be constructed on the basis of object shift in Scandinavian and constructions involving negative constituents in Romance. The analyses presented in this appendix are highly derivational and very difficult to restate in non-derivational theories such as Optimality Theory. As a result, to the extent that they are successful, they also provide evidence against non-derivational models of the grammar.

4.6.1 Cliticization in coordinate structures in Bulgarian

Consider the following Bulgarian construction from Franks (1998a).

- (177) I ti go dade.
 and you.dat it.acc gave
 'And he/she gave it to you.'

Franks observes on the basis of (177) that the conjunction *i* can support preverbal enclitics. As expected, the enclitics in the construction in question cannot follow the verb.

- (178) *I dade ti go?

⁷⁸This analysis of the Bulgarian data in question is presented in Franks and Bošković (in press).

Interestingly, as noted in Franks (1998a), when *li* is added we get (179).

- (179) I dade li ti go?
 and gave Q you.dat it.acc
 ‘And did he/she give it to you?’

Apparently, when *li* is present, the conjunction *i* is irrelevant in determining which copy of pronominal clitics to pronounce. This is confirmed by the fact that other variants of (179) are unacceptable.

- (180) a. *I li ti go dade?
 b. *I ti go dade li?⁷⁹
 c. *I ti go li dade?

Apparently, PF necessarily ignores *i* in (179)-(180), but must take it into consideration in (177)-(178). As a result, pronunciation of lower copies of clitics takes place in (179)-(180), but not in (177)-(178). How can this state of affairs be accounted for? Franks and Bošković (in press) show that the data in (177)-(180) can be straightforwardly accounted for if we adopt the multiple spell-out hypothesis and the following assumptions:

1. CP, but not an IP is a phase, as argued in Chomsky (1999, 2000).

A property of phases that is relevant to our current concerns is that the structure is sent to the phonology cyclically phase by phase. The assumption 1 prevents IPs from being derivationally sent to spell-out even in the multiple spell-out model, which is what is important for our current purposes.⁸⁰

2. Whereas the conjunct following *i* is a CP in (179)-(180), where it is headed by *li*, it is a bare IP in (177)-(178), in accordance with Bošković’s (1997a) approach to economy of representation.

⁷⁹(180b) is actually acceptable as an instance of the focus *li*-construction, sort of an echo-question. On this reading, the whole sequence *i ti go dade* (i.e. (177)) is focalized and located in SpecCP (possibly together with *li*, see section 4.3.2.4). It is easy to verify that the construction can be readily accounted for under the analysis adopted below.

⁸⁰I leave open whether there are other phrases that need to be prevented from being derivationally sent to the phonology. In sections 4.6.2 and 4.6.3 we will see some evidence that PartP and NegP, two phrases that Chomsky does not explicitly discuss in the relevant respect, can be sent derivationally to spell-out.

Consider how the data in (177)-(180) are handled under these assumptions. Given that the conjunct in (177) is an IP and given that, as argued in Chomsky (1999, 2000), IP is not a phase, (177) will not be sent to the phonology until the whole structure is built. Since *i* can support a clitic all elements can be pronounced in the highest position. (177) is then straightforwardly derived.

(181) I ti go dade ti-~~go~~.

The ungrammaticality of (178) also follows straightforwardly. Since there is no need to pronounce the pronominal clitics in a lower position following the verb, they cannot be pronounced in a lower position.

Turning now to the *li*-constructions, they will be sent to the phonology when the conjunct following *i* is built. The conjunct is a CP and therefore a phase.⁸¹ The following structure is then sent to the phonology under the current analysis.

(182) [_C ti go dade+li] ti go dade?

The decision which copy of the pronominal clitics to pronounce then must be made before *i* is merged. As a result, in order to avoid having a stranded enclitic in PF, *ti go* has to be pronounced in a lower position. The verb is pronounced in the highest position.

(183) [_C ~~ti-go~~ dade+li] ti go ~~dade~~?

The conjunction *i* is then added and we derive (179). The pronominal clitics follow rather than precede the verb because the information outside of the CP phase is unavailable at the point when the decision which copy to pronounce is made. It is easy to verify that (180a-c) are underivable without a violation.

The appeal to multiple spell-out is crucial here. If we were to wait for the whole structure to be built before sending the *li*-constructions to the phonology, the following structure would be subject to spell-out.

(184) I [_C ti go dade+li] ti go dade?

⁸¹The situation is slightly more complicated under the clitics-as-non-branching-elements analysis. On this analysis, *li* might be generated in SpecFP rather than C. (This, however, is not the only possibility, see section 4.3.1.) If the complex head of which *li* is a part of moves to C at some point (either overtly or covertly), which seems plausible and is argued for in Rudnitskaya (2000) (see again section 4.3.1), or if the presence of *li* for any reason requires the presence of C, the phrase following *i* in the *li*-constructions will have to be a CP even under Bošković's (1997a) approach to economy of representation so that nothing would change in the analysis given above. If a CP is never projected in the *li*-constructions under consideration (which means that the complex head containing *li* would not move to C), we would have to conclude that FP is a phase under the base-generation-in-SpecFP analysis of *li*.

Since no PF violation would take place if the pronominal clitics and the verb are pronounced in the head of the chain, they would have to be pronounced in the head of the chain. We would then derive (180b) instead of (179).⁸² As discussed above, the problem does not arise under the multiple spell-out hypothesis.

Note finally that (180b) (i.e. *I ti go dade li?*) is what we get in Macedonian. This is expected, given that Macedonian pronominal clitics can be proclitics and therefore can always be pronounced in the head of their chain.

The above analysis provides an empirical argument for the multiple spell-out hypothesis, in particular, the phase-based approach to multiple spell-out. Under this hypothesis, we do not need to stipulate the invisibility of *i* to encliticization in (179)-(180).⁸³ The reason why *i* is invisible to encliticization in the constructions in question is trivial: it is literally not there at the point when encliticization takes place. This kind of analysis seems to be the most principled way of explaining why some elements paradoxically act as if they were invisible.⁸⁴

4.6.2 Object shift in Scandinavian revisited

The above argument for multiple spell-out from Bulgarian cliticization is straightforward: PF needs to have access to an intermediate syntactic representation, which is possible under the multiple spell-out model, but not under the standard one-point-of-the-interface model. The argument for multiple spell-out is at the same time an argument for a derivational model of the grammar and therefore represents a serious challenge for non-derivational theories like Optimality Theory.

Another argument of the same kind can be constructed with respect to object shift in Scandinavian. The argument is significant in the context of this work because it eliminates another putative instance of phonological movement.

It is well-known that, as discussed by Holmberg (1986) and section 3.1.3 of this work, object shift in Scandinavian depends on V-movement. As illustrated by Swedish (185), object shift can take place in main verb V-2 clauses, but not in auxiliary+participle clauses, where the main

⁸²Under the clitic clustering account of the *li*-adjacency effect in Bulgarian, discussed in section 4.3.1.3 (see that section for an alternative account which does not require Bulgarian *li* to cluster with other clitics), *dade* would actually be pronounced in a lower position to ensure clitic clustering, which would give us (180c) in place of (179).

⁸³This type of analysis would not *explain* the facts under consideration. For an example of such an analysis, see the analysis of *wanna*-contraction in Jaeggli (1980), where it is essentially stipulated that *wh*-trace, but not PRO or NP-trace, is visible in PF, hence only the former blocks contraction.

⁸⁴For a recent analysis along these lines of the blocking effect which empty categories have on *wanna*-contraction, discussed briefly in the previous footnote, see Boeckx (2000).

verb does not undergo verb movement.⁸⁵

- (185) a. Jag kysste [_{AgroP} henne [_{VP} inte [_{VP} t_i]]]
 I kissed her not
 ‘I didn’t kiss her.’
- b. *Jag har [_{AgroP} henne [_{VP} kysst t_i]]
 I have her kissed
 ‘I haven’t kissed her.’
- c. Jag har [_{AgroP} [_{VP} kysst henne]]

Holmberg (1999), however, observes that object shift can take place even in auxiliary+participle constructions if the participle undergoes movement to SpecCP. (Holmberg argues that only the verbal head moves to SpecCP in (186) and calls this movement V-topicalization. The alternative Holmberg argues against is remnant VP-fronting, which would have to follow object shift. The issue is addressed below.)

- (186) a. Kysst har jag henne inte (bara hållit henne i handen).
 kissed have I her not only held her by the hand
 ‘Kissed her I haven’t (only held her by the hand).’
- b. Sett har han mej kanske (men han vet inte vad jag heter).
 seen has he me perhaps but he knows not what I am-called
 ‘Seen me he may have done (but he doesn’t know my name).’

As Holmberg observes, this type of construction invalidates Chomsky’s (1993) equidistance account of the dependency of object shift on V-movement. Under Chomsky’s account, in order for the object to be able to skip the subject in SpecVP, and for the subject to be able to skip the shifted object when moving to SpecTP, it is necessary for the main verb to move not only to Agro but also to T. This clearly does not take place in (186).

To account for the saving effect of V-topicalization on object shift in auxiliary+participle constructions, Holmberg proposes an analysis that treats object shift as a phonological operation and stipulates a locality condition which prevents object shift from applying across a phonologically visible category asymmetrically c-commanding the object position except for

⁸⁵Unless otherwise indicated, all the data discussed in this section are from Swedish and taken from Holmberg (1999). (Some of the data are slightly modified.)

As discussed in section 3.1.3, the negation is assumed to be VP-adjoined and therefore mark the left edge of the VP. The precise positions of the lexical items in (185), including the shifted object, actually do not affect the argument about to be given. The gist of the argument would not be affected by changing the labels of the phrasal nodes in (185). For ease of exposition, I am following more or less standard assumptions concerning where the relevant elements are located.

adjuncts. (As noted above, the negative marker is considered to be an adjunct.)⁸⁶ Given this, V-movement in (186) must precede object shift. Since, according to Holmberg, V-movement (more generally, movement to SpecCP) is a syntactic operation, object shift then must be a phonological operation. If it were to take place in the syntax, the cycle would be violated in constructions like (186).

As discussed in Chomsky (1999), Holmberg's analysis is problematic in several respects. The proposed locality condition is rather strange and does not fall together with locality conditions on other putative cases of PF movement. The exception for adjuncts is also obviously problematic. Given that object shift is a semantically "loaded" operation,⁸⁷ another problem is the semantic/phonology interaction that is necessary under Holmberg's analysis. Such an interaction cannot be established under the standard conception of the grammar, where semantic effects are restricted to narrow syntax, the post-spell out PF derivation not having an effect on semantics.⁸⁸ Another problematic aspect of Holmberg's analysis is his stipulation that [-focus] elements (elements that undergo object shift are specified as [-focus] according to Holmberg) must be governed by a [+focus] element. This is so especially in light of the fact that Holmberg's [+focus] elements represent an arbitrary collection of categories that does not fit into any of the standard conceptions of focus.⁸⁹ (See the discussion below for another problem with Holmberg's analysis which has to do with the phrase structure status of the element undergoing topicalization in (186).)

Given these problems, I conclude that though very interesting, Holmberg's analysis cannot be maintained. So, how can we explain the saving effect of V-topicalization on object shift in auxiliary+participle constructions? It turns out that Bobaljik's PF merger analysis of the

⁸⁶Holmberg presents three other cases which he argues are also covered by his generalization concerning when object shift takes place. For discussion of these cases, see Bošković (2000c).

⁸⁷As noted in section 3.1.3, Diesing (1996) shows that specific, non-contrastive definite NPs undergo object shift (in fact, they must undergo object shift if it is possible), while non-specific indefinite NPs cannot undergo object shift. Notice also that object shift can affect Binding Conditions (see Holmberg and Platzack 1995).

⁸⁸To deal with this issue, Holmberg considerably enriches the standard model. It is worth noting in this respect that Chomsky (1999) presents an alternative to Holmberg's analysis that also faces the problem of the phonology-syntax interaction. In particular, Chomsky (1999:27) proposes a rule that makes an assignment of a particular interpretation sensitive to the notion of *phonological border*. Another problem with Chomsky's analysis is his adoption of the assumption (p. 28) that the feature driving object shift can be present in the structure only if it will eventually have an effect on the interpretation of the sentence (I am ignoring here constructions in which the shifted object undergoes further A'-movement), an assumption which results in considerable globality.

⁸⁹Holmberg does not leave sufficient room for contextual effects on focus assignment since he assumes that certain categories, for example, main verbs, prepositions, verb particles, in fact all lexical predicate heads, are inherently specified as [+focus]. The assumption cannot be maintained. For example, neither the verb nor the particle is focused in *Mary turned on the radio* if the sentence is a response to the following question: *What did Mary turn on?* Holmberg also assumes that certain elements, in particular, adverbs, negation, and in general predicate adjuncts, are not marked for the focus feature. The assumption is also problematic. To illustrate the problem, the adverb is focused, in fact it is the only focused element in *Mary left the house yesterday* if the sentence is a response to the following question: *When did Mary leave the house?*

impossibility of object shift in (185b) can provide a straightforward account of the acceptability of (186) if we adopt multiple spell-out. Recall that, as discussed in section 3.1.3, under Bobaljik's analysis, (185b) is ruled out because the shifted object intervenes between the participle and the null head (Part) the participle is required to merge with.

- (187) *Jag har [_{PartP} Part [_{AgroP} henne_i [_{VP} kysst t_i]]]
 I have her kissed
 'I have kissed her.'

Suppose now that the verb undergoes successive cyclic movement to SpecCP and that during the movement, it lands at some point to a position that is adjacent to the null head that it is required to merge with, both of which are reasonable assumptions. (For some discussion concerning what the position in question is, see (190) below.) If the structure can be sent to the phonology at this point, certainly a possibility in the multiple spell-out model, the participle and the null head will be adjacent in the phonology so that the merger will be able to take place. The participle will proceed with movement to SpecCP. I assume that the morphological combination of the null affix head and the participle is licensed at the point of merger during the derivation.

The multiple spell-out hypothesis thus makes it possible to account for the saving effect of V-topicalization on object shift without assuming that object shift is a phonological operation, a problematic assumption as discussed above, and without requiring phonology and semantics to interact. Furthermore, in contrast to Holmberg's analysis, where object shift takes place acyclically after movement to SpecCP in constructions like (186), under the current analysis, object shift precedes movement to SpecCP, obeying the cycle. This removes Holmberg's main reason for pushing object shift outside of narrow syntax. Notice also that merger is blocked in (185b) even if multiple spell-out is adopted. Given the cycle, the object must move in front of the participle before Part is merged into the structure. At no point in the derivation are then the participle and Part adjacent in (185b) (see in this respect the more detailed structure in (187)).⁹⁰

Consider now the phrase-structure status of the element located in SpecCP in (186). For Holmberg, it is crucial that the element has X^0 status, i.e., we have to be dealing here with head movement to SpecCP. The alternative analysis, remnant VP fronting, cannot be adopted under Holmberg's set of assumptions since this analysis requires object shift to precede topicalization. This cannot happen if topicalization is syntactic movement and object shift phonological movement, as Holmberg assumes. Under the multiple spell-out analysis, it is not necessary to adopt the non-standard assumption that heads can move to specifiers. More precisely, the multiple spell-

⁹⁰Recall that, as discussed in section 3.1.3, Bobaljik (1995) suggests that object shift actually takes place overtly even in (185b). However, a lower copy of the shifted object is pronounced in order not to disrupt adjacency between the null head and the participle so that their merger can take place. For Bobaljik (1994), on the other hand, overt object shift simply does not take place in (185b).

out analysis makes it possible to treat movement to SpecCP in (186) as an instance of remnant VP fronting rather than fronting of an X^0 element.

Holmberg points out one potential problem for the remnant phrasal preposing analysis. He observes that it is impossible to save an object shift derivation for an auxiliary+participle construction by topicalizing a VP containing a small clause.

- (188) *Hört hålla föredrag har jag henne inte.
 heard give talk have I her not
 ‘I didn’t hear her give a talk.’

The ungrammaticality of (188) is surprising given that topicalizing a VP containing a small clause is otherwise possible, as shown by (189). (The phrase undergoing topicalization in (189) could actually be larger than VP. I leave open what the phrase is and refer to it as VP for ease of exposition.)

- (189) Hört henne hålla föredrag har jag inte.
 heard her give talk have I not

Holmberg accounts for the data under consideration by assuming that we are dealing here with V-movement to SpecCP, rather than remnant VP movement. The assumption is unnecessary under the multiple spell-out analysis. Recall that the reason why the shifted object does not interfere with the merger of the participle and the null head in (186) is that the participle is placed to a position adjacent to the null head during movement to SpecCP. Suppose now that the position in question precedes the null head. (It could in fact be SpecPartP.) In other words, the relevant configuration is (190a) rather than (190b). This amounts to assuming that there is no position for the element moving to SpecCP to move through between the shifted object and Part, a plausible assumption.

- (190) a. ..._[VP participle] _[PartP Part] _{[AgroP object]...}
 b. ..._[PartP Part] _[VP participle] _{[AgroP object]...}

The small clause following the participle in (188) now disrupts the adjacency between the participle and Part, blocking their merger.⁹¹ The problem does not arise in (189), where the participle is adjacent to Part at least prior to VP-fronting to SpecCP. (I return to the placement of the negation in (188)-(189) below, where I argue that the negation can be located above Part. For the moment I disregard it.)

⁹¹Notice that Part must merge with the participle of its own clause since the participle from another clause would already be merged with its clause-mate Part. Providing another, more deeply embedded participle for Part in (188) to merge with therefore would not help.

- (191) ...[_{PartP} Part [_{AgroP} [_{VP} hört henne...]]]
 heard her

If the structure is sent to the phonology at this point, the merger can take place. Recall that in (188), the participle and the null head are not adjacent prior to VP-fronting because of the shifted object.

The multiple spell-out analysis thus accounts for the contrast between (188) and (189) without requiring the assumption that a head moves to SpecCP in (186). The analysis blames the ungrammaticality of (188) on the impossibility of merger of the participle and Part. Strong confirmation that doing this is on the right track is confirmed by the fact that constructions like (188) are acceptable in German, as noted in Holmberg (1999). (The observation is attributed to Gert Webelhuth.)

- (192) Rauchen gelassen hat er seine Tochter nicht.
 to-smoke allowed has he his daughter not
 ‘He hasn’t allowed his daughter to smoke.’

The merger problem does not arise in (192). As discussed in Bobaljik (1995) (see also section 3.1.3), German being head-final, a shifted object does not interfere with the merger of the participle and Part. The heads in question are adjacent in German regardless of whether the participle is moved to SpecCP even when the object undergoes object shift. Merger can then be licensed in (192) if the structure is sent to the phonology prior to remnant preposing of the VP, when the relevant part of the structure is as shown in (193).

- (193) [_{PartP} [_{VP} ...rauchen gelassen] Part...]
 to-smoke allowed

The contrast between (188) and (192) thus receives a straightforward account under the multiple spell-out analysis.

Considering the movement that places the participle in SpecCP to be VP preposing rather than V-preposing is desirable in light of the ungrammaticality of constructions like (194).

- (194) a. ?*Sett har jag honom inte röka (men jag har känt hans andedräkt).
 seen have I him not smoke (but I have smelled his breath)
 ‘I haven’t seen him smoke, but I have smelled his breath.’
 b. *Sett har jag inte Per röka (men jag har känt hans andedräkt).
 seen have I not Per smoke (but I have smelled his breath)
 ‘I haven’t seen Per smoke, but I have smelled his breath.’

The ungrammaticality of these constructions strongly indicates that we are not dealing with V-movement. Under the remnant VP preposing analysis of (186), the constructions in (194) can be readily accounted for if the small clause predicate cannot move outside of the VP, which is a prerequisite for remnant VP preposing. (In fact, there seems to be no proper motivation for this movement.) I therefore conclude that the saving effect of topicalization of a constituent containing the participle on object shift in auxiliary+participle constructions can be accounted for without undesirable consequences concerning the status of the saving movement (the movement can be considered remnant phrasal movement) if multiple spell-out and Bobaljik's PF merger analysis are adopted.

Before concluding the discussion of object shift in Scandinavian I will address one issue that Holmberg raises as a problem for Bobaljik's analysis. Bobaljik assumes that elements like *inte* mark the left edge of the VP. More precisely, he assumes that they are left-adjoined to VP. Furthermore, he assumes that both the landing site of object shift and the null head that merges with the participle are higher than *inte*, the null head being higher than the shifted object. Holmberg observes that these assumptions are untenable for Mainland Scandinavian based on constructions like (195), which indicates that *inte* is higher in the structure than the auxiliary, which on Bobaljik's analysis is supposed to be higher than the shifted object and the null head the participle merges with. (Recall that the auxiliary remains in its base-generated position in Swedish embedded clauses.) We thus appear to have a contradiction at hand.

- (195) a. Det är möjligt [att Per inte har kysst henne]
 it is possible that Per not has kissed her
 'It is possible that Per hasn't kissed her.'
 b. *Det är möjligt [att Per har inte kysst henne].

The problem is actually even more serious. Recall that Bobaljik assumes that adjuncts like *inte* are invisible to the operation of merger and therefore do not disrupt the adjacency necessary for merger to take place. However, we have seen in the discussion of stylistic fronting in Icelandic in section 4.3.2.5 that the assumption is not only conceptually, but also empirically problematic. The facts discussed in that section indicate that, as would be expected, adjuncts are visible in PF and interfere with merger. Given this conclusion, even (196a) becomes problematic if the negation is adjoined to VP since the negation should block the merger of the participle and Part, as shown in the structure in (196b). (Bobaljik would deal with such constructions by assuming that adjuncts do not block merger.)

- (196) a. Per har inte kysst henne.
 Per has not kissed her
 b. Per har [_{PartP} Part [_{AgroP} [_{VP} inte [_{VP} kysst henne]]]]

I conclude, therefore, that the negation must be higher than Part in (196a). (196a) can be readily accounted for if we assume that the negation can be adjoined not only to the main verb VP, as Bobaljik does, but also to the VP headed by the auxiliary, a rather natural assumption. The negation can then be located in this higher position in (196a).

(197) Per har_i [_{VP} inte [_{VP} t_i [_{PartP} Part [_{AgroP} [_{VP} kysst henne]]]]]

However, this may not be enough to account for (195a). If the embedded clause auxiliary needs to merge with I, which is what Bobaljik assumes, the negation would intervene between the two elements if it is adjoined to the VP headed by the auxiliary. *Inte* in (195a) in fact raises the same kind of a problem as *quickly* in (141). I therefore suggest that (195a) should be accounted for in the same way as (141). This means that *inte* would be attached in (195a) wherever *quickly* is attached in (141). (See the discussion in section 4.3.2.4, especially fn. 62. In fact, *inte* in (196a) might also be located in this position.)

As for (195b), there is in principle nothing wrong with the position of the negation, which occupies the lower neg position (adjoined to the main verb VP) in the construction in question. (Recall that the auxiliary does not move in (195b).) The problem is that as a result of being placed in the lower position (see (198)), the negation intervenes between the participle and Part, blocking the merger of the two heads.

(198) *Det är möjligt [_{CP} att Per [_{VP} har [_{PartP} Part [_{AgroP} [_{VP} inte [_{VP} kysst henne]]]]]]]
 it is possible that Per has not kissed her

Under this analysis, nothing prevents us from locating the negation in the lower position in (185a) and (186). Notice also that in constructions like (199a), whose structure is given in (199b), both the shifted object and the negation now interfere with the merger of the participle and Part.

(199) a. *Per har henne inte kysst.
 Per has her not kissed
 ‘Per hasn’t kissed her.’
 b. Per har_i [_{VP} t_i [_{PartP} Part [_{AgroP} henne [_{VP} inte [_{VP} kysst]]]]]

4.6.3 Negation in Romance

Certain peculiarities of negation and negative constituents in Romance can also be insightfully treated under the PF merger+multiple spell out analysis. Consider the following well-known data from Italian. (The affirmative reading of (200a-b) is ignored below).

- (200) a. Gianni *(non) mangia.
 Gianni not eats
 ‘Gianni does not eat.’
- b. *(Non) mangia Gianni.
- c. Nessuno (*non) mangia.
 Nobody not eats
- d. *(Non) mangia nessuno.
- e. Gianni *(non) mangia niente.
 Gianni not eats nothing
 ‘Gianni does not eat anything.’
- f. Nessuno (*non) mangia niente.

The data in (200) show that whereas negation in Italian is always phonologically realized in negative constructions not containing a negative constituent, in constructions containing a negative constituent it sometimes is, and sometimes is not, phonologically realized. Crucially, phonological realization of negation is never optional in (200) and does not depend on the grammatical function of the negative constituent. The above data can be readily accounted for if we assume that negation in Italian is itself always phonologically null, but is a PF affix on a negative constituent, such as those given in (200). To illustrate, in (200c), the subject *nessuno* merges with the negation serving as its host and satisfying its affix requirement. Under this analysis, *non* is treated as *do* of *do*-support. It is introduced into the structure only when the negation cannot merge with a negative constituent. In other words, it is introduced into the structure in order to save a stranded affix, just like *do* of *do*-support. The last resort flavor of *non* is thus straightforwardly captured under the current analysis, which I consider to be an argument for the analysis. More precisely, under the current analysis, the last resort character of *non*-insertion is reduced to the last resort character of *do*-insertion.

Let us see how the full paradigm in (200) can be accounted for under the PF merger analysis. In (200a-b), no negative constituent is present. In (200d-e), it is present but is not adjacent to the negation and therefore cannot merge with it. As a result, *non* must be introduced in both (200a-b) (on the relevant reading) and (200d-e). In (200c), *nessuno* can host the negation. The same holds for (200f). Therefore, *non*-insertion cannot take place.

Consider now (201).⁹²

- (201) A nessuno Gianni (*non) dice niente.
 to no one Gianni not says nothing
 ‘Gianni does not say anything to anyone.’

⁹²The grammaticality status of (201) is slightly more complex than indicated here (see Haegeman 1995).

At no level of representation is the negative constituent adjacent to the negation in (201). Yet, *non*-insertion does not take place in (201). However, it is likely that the negative constituent is adjacent to the negation at some point of the derivation. More precisely, if, as is often assumed, the negative constituent moves through SpecNegP on its way to its final landing site it is adjacent to the negation, which I assume is located in the head position of NegP, at the point when it is located in SpecNegP. If the structure is sent to the phonology at this point, the merger of the negative constituent and the negation can take place.⁹³ The negative constituent and the negation then proceed to their final landing sites in the syntax, the negative constituent undergoing topicalization and the negation moving to the position where *non* appears in constructions like (200a-b).⁹⁴ I

⁹³We might need to assume that the null negation is a phrasal affix, like the possessive in English, to account for constructions like (i).

- (i) Nessuno dei genitori *(non) dice niente.
 none of-the parents not says nothing
 ‘None of the parents says anything.’

It should be pointed out here that the current analysis is quite similar to Brown’s (2000) analysis. Although Brown herself does not observe this, it seems to me that her analysis also requires an appeal to multiple spell-out. Essentially following Speas (1994) (see, however, below), Brown assumes that for a phrase to exist, it must have phonological content, which I will refer to as the Phonological Content Condition. In constructions like (200a-b), NegP is licensed with respect to the requirement in question through *non*-insertion. In (200c), on the other hand, the requirement is satisfied by having the subject pass through SpecNegP on its way to SpecIP. Brown does not discuss how exactly the requirement is satisfied in (200c). It appears that the requirement is not satisfied in the final syntactic representation. Therefore, we need to assume that the requirement can be satisfied derivationally, i.e. on-line. Thinking of the nature of the Phonological Content Condition, it seems most natural to treat it as a PF requirement. Under standard assumptions, syntax should not know anything about the phonological content of elements it manipulates. In fact, in the Distributive Morphology framework, the phonological content is not even there in the syntax. If we consider the Phonological Content Condition to be a PF requirement, an appeal to multiple spell-out is necessary to make Brown’s analysis work since in the final representation, NegP does not have phonological content in constructions like (200c). Notice, however, that treating the Phonological Content Condition as a PF requirement is also not without problems. One question that arises is whether a PF requirement should be allowed to appeal to syntactic phrases. (Brown interprets the phrase in the requirement to be a syntactic phrase, not a prosodic phrase.) Also, there are obvious counterexamples to the Phonological Content Condition, which seriously undermine Brown’s analysis given that the analysis crucially relies on it. Thus, the IP in *the cats that like Mary* violates the condition. (Given that a null operator is at some point present in SpecIP, the construction is not a problem for Speas’ 1994 formulation of the requirement, which says that a phrase must have either phonological or semantic content. However, Brown cannot use this formulation of the requirement since it would not force *non*-insertion given that negation has semantic content.) Notice also that on Brown’s analysis, *non* is inserted into SpecNegP in order to provide phonological content for it. However, at least in the final representation, *non* does not appear to be located within NegP. (It is placed between the subject and the clitic cluster, which is followed by the verb, located in the highest head in split I.) As discussed directly below, this problem does not arise under the current analysis, where *non* does not ever have to be present within NegP. Nevertheless, despite these differences, the current analysis is quite similar to Brown’s.

⁹⁴If the negation is considered to be a clitic and if we adopt one of the options considered with respect to cliticization in Bulgarian and Macedonian, namely, the claim that clitics are non-branching elements, the structure would have to be complicated since the negation could not be generated in the head position that takes a complement. Two most straightforward options under this analysis are the following: (a) the negation is generated as a specifier of a functional head and the negative constituent passes through an additional specifier of the same head, (b) the

assume that the morphological combination of the negation and the negative constituent is licensed at the point of merger. The fact that they end up not being adjacent in the final output of the syntax is then irrelevant.

The current analysis also accounts for the contrast between (200c) and (202).

- (202) Nessuno crede che Gianni *(non) mangia niente.
 nobody believes that Gianni not eats nothing
 ‘Nobody believes that Gianni doesn’t eat anything.’

In (202), *non* must be inserted in spite of the presence of a negative constituent in preverbal subject position. This is expected since, in contrast to (200c), the negative constituent in (202) is at no point adjacent to the embedded clause negation and therefore cannot merge with it. Hence, *non*-insertion has to take place.⁹⁵

It is worth noting here that Spanish behaves like Italian with respect to the basic paradigm in (200) (see (203)). I assume that (203) can be accounted for on a par with the corresponding constructions in Italian.

- (203) a. Nadie (*no) vino.
 nobody not came
 ‘Nobody came.’
 b. *(No) vino nadie.

negation is generated as the specifier of a functional head and then moves to a head position of a higher head. The negative constituent moves to the specifier of that higher head. (There are also other possibilities that do not involve establishing a spec-head relation between the null negation and the negative constituent, which is actually not necessary under the current analysis.)

⁹⁵The data concerning the distribution of Milanese *no* discussed in Zanuttini (1997) are worth noting here. Milanese *no* occurs very low in the structure, as shown in (ia). Interestingly, in contrast to Italian postverbal constituents, which are accompanied by *non*, postverbal negative constituents in Milanese occur without *no*.

- (i) a. El l’ha scrivuu no.
 he subj.clitic’has written not
 ‘He hasn’t written.’
 b. L’ha mangiaa niént.
 subj.clitic’has eaten nothing
 ‘He didn’t eat anything.’
 c. Gh’è vegnuu nissùn.
 there’is come no one
 ‘No one came.’

It is tempting to apply the PF merger analysis to the data in (i). Since the Milanese negation occurs lower in the structure than the Italian negation, as shown by (ia), even postverbal negative constituents can merge with the negation, which blocks *no*-insertion. (I leave the exploration of the viability of the analysis, as well as the investigation of other languages with low negation Zanuttini cites, for future research.)

- c. Juan *(no) ha dicho nada.
 Juan not has said nothing
 ‘Juan didn’t say anything.’
- d. Nadie (*no) ha dicho nada.
 nobody not has said nothing

Notice, however, that according to Martín-González (2000), *no*-insertion is optional in (204). (Not all speakers agree with this judgment, see fn. 96.)

- (204) A ninguna de estas personas, (no) las vi en la fiesta.
 no one of these people not them saw in the party
 ‘I didn’t see any of these people at the party.’

The optionality of *no*-insertion in (204) can also be accounted for in a principled way under the current analysis. Notice first that clitic left-dislocated elements can be followed by a pause, i.e. an intonational phrase boundary. Recall now that, as discussed in chapter 2, cliticization or, more generally merger, is blocked by intonational phrase boundaries. Therefore, the clitic left-dislocated element cannot merge with the negation in its final overt syntax position when followed by a pause. (I am ignoring the option where the clitic left-dislocated element is not followed by a pause, a possibility for most speakers. See fn. 96 for relevant discussion.) Martín-González (2000) argues that topic negative phrases can either move to their surface position or be directly merged in that position. Given the above discussion, the latter derivation ‘licenses’ *no*-insertion. This is not the case with the former derivation, since on this derivation, the negative element is at one point in a merging configuration with the negation. This derivation then necessarily results in the structure without *no*. The optionality of *no*-insertion in (204) is thus accounted for.⁹⁶

⁹⁶There is actually considerable variation with respect to constructions like (204). Notice that not all speakers can have a pause following the clitic left-dislocated element. What is important for our current purposes is that with four of my five informants, the presence vs absence of the pause affects the grammaticality status of (204). These speakers accept only both (one speaker) or one (one speaker for the first option, two for the second option) of the following: a pause following *personas* and obligatory *no* or no pause following *personas* and no *no*. This can be readily accounted for under the current analysis. I assume that for the speaker who allows only the pause+*no* option, the direct merger of the clitic left-dislocated element derivation is the only option. (For this speaker, a pause is obligatory following a clitic left-dislocated constituent.) I assume that for the speaker who has both options, a pause following *personas* is possible on the base-generation derivation, but not on the movement derivation. For the speakers who allow only the no pause following *personas* and no *no* option, the movement derivation might be the only possibility. Notice, however, that if *personas* is not followed by a pause, i.e. an intonational phrase boundary (the two speakers in question actually cannot have a pause following a clitic left-dislocated element), even the direct merger of the clitic left-dislocated element derivation results in the merger of the negative constituent and the negative affix, which blocks *no*-insertion. However, one of my informants, Javier Martín-González, accepts both the *no* and the no *no* option for (204) regardless of whether the pause is present, a judgment that cannot be accounted for under the current analysis without additional assumptions. (The assumption that for this speaker, a clitic left-dislocated element can be followed by an I-phrase boundary even when not followed by a pause would suffice to account for

Martín-González (2000) observes two additional configurations where *no*-insertion must take place in Spanish, one involving a negative constituent extracted out of a *wh*-island (see also Suárez 1993) and one involving a topic negative constituent occurring between a non-*wh* C and its doubled counterpart.

- (205) A ninguno de ellos, dime por qué *(no) lo(s) invitaste a la fiesta.
none of them tell-me why not him/them invited to the party
'Tell me why you didn't invite any of them to the party.'
- (206) Me dijeron que, a ninguno de ellos, que Juan *(no) lo(s) invitó al final.
me told that none of them that Juan not him/them invited at-the end
'They told me that Juan didn't invite any of them in the end.'

Martín-González shows that in both constructions, the derivation where the negative topic moves to its surface position, on which *no*-insertion would not take place, is blocked due to a violation of locality restrictions on movement. The direct generation in the surface position is then the only option for the negative constituent. On this derivation, *no* must be inserted in PF to rescue the stranded negative affix.

To summarize the discussion in this appendix, we have seen three arguments that phonology needs to have access to intermediate syntactic structures, which is possible in the multiple spell-out model, but not in the standard one-point-of-the-interface model. As noted above, to the extent that they are successful, the analyses presented in this appendix also provide evidence against non-derivational theories like Optimality Theory.

the problematic *no* pause+*no* option, accepted only by this informant.)

5

CONCLUSION

The central topic of investigation of this work is the possibility of PF affecting word order. I have argued that PF can affect word order, but not through actual applications of the operation Move. Two ways in which PF affects word order without actual PF movement investigated in this work are through determining which copy of a non-trivial chain is to be pronounced (see chapters 3 and 4) and by having a filtering effect on the output of the syntax (see chapter 2).

The final picture we have ended up with is strongly derivational. We have seen several cases where a representation that crucially determines whether a requirement is satisfied is destroyed as the derivation unfolds and does not make it to the final representation, a state of affairs that is difficult to capture in non-derivational theories. The relevant cases concern the syntax-phonology interaction (the multiple spell-out cases discussed in appendix B) and the structure of PF (cases where a pause precedes a SC clitic discussed in chapter 3).

I have demonstrated that South Slavic cliticization does not require adopting a co-presence, bi-directional model in which the phonology can feed information to the syntax, or allowing look-ahead from the syntax into the phonology (for example, allowing phonologically motivated syntactic movements) in derivational models in which syntax feeds phonology, contrary to what has been previously argued in the literature. All the relevant facts concerning South Slavic cliticization can be accounted for while maintaining the more or less standard picture in which syntax derivationally feeds phonology and does its job without looking ahead to the needs of the phonology, with movement taking place only in the syntax. However, we have seen evidence that phonology needs to be able to access syntax more than once, i.e. it needs to have access to intermediate syntactic structures, as in the multiple spell-out model.

Turning now to issues that are more directly relevant to cliticization, I have demonstrated that the second position clitic effect is phonological in nature. More precisely, it follows from

phonological requirements on clitics that are instantiated through a filtering effect of the phonology on the syntax. However, clitics are inserted, and undergo movement, only in the syntax.

I have also explored the consequences of Chomsky's (1995) suggestion that clitics are non-branching elements, a way of capturing the intuition that clitics have less structure than full pronouns. An interesting consequence of this treatment of clitics is that even auxiliary and negative clitics are unable to take complements. Assuming this has enabled us to provide an account of South Slavic cliticization that does not require positing rightward head adjunction, as is standardly done in the literature, and thus fully confirms to Kayne's (1994) LCA.

A number of specific claims have been made concerning the syntax of clitics in South Slavic languages, as well as the general syntactic structure of these languages. I have also discussed a number of issues and phenomena that have turned out to be relevant to central theoretical and empirical issues considered in this book. These include multiple *wh*-fronting, left-branch extraction, focusing, affix hopping, stylistic fronting, V-2, and object shift. Of course, the phenomena in question require much more extensive scrutiny than I was able to devote to them in this volume.

REFERENCES

- Abney, S. (1987). *The English noun phrase in its sentential aspect*. Doctoral dissertation, MIT, Cambridge, Mass.
- Aguado, M. and G. Dogil (1989). Clitics in Lexical Phonology: Alleged counterevidence. *Linguistische Berichte*, 120, 99-116.
- Aissen, J. (1992). Topic and focus in Mayan. *Language*, 68, 43-80.
- Alexander, R. (1994). The balkanization of Wackernagel's Law. In: *Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature and Folklore* Vol. 7 (G. Fowler, H. Cooper, and J. Ludwig, eds.), pp. 1-8. Indiana Slavic Studies, Bloomington.
- Alexandrova, G. (1997). Pronominal clitics as G(eneralized) F(amiliarity)-Licensing Agr⁰. In: *Formal Approaches to Slavic Linguistics: The Cornell Meeting, 1995* (W. Browne, E. Dornisch, N. Kondrashova, and D. Zec, eds.), pp. 1-31. Michigan Slavic Publications, Ann Arbor.
- Anderson, S. (1992). *A-morphous morphology*. Cambridge University Press, Cambridge.
- Anderson, S. (1993). Wackernagel's revenge: clitics, morphology, and the syntax of second position. *Language*, 69, 68-98.
- Anderson, S. (1996). How to put your clitics in their place or why the best account of second-position phenomena may be something like the optimal one. *The Linguistic Review*, 13, 165-191.
- Aoun, J. (1982). *The formal nature of anaphoric relations*. Doctoral dissertation, MIT, Cambridge, Mass.
- Aoun, J. (1999). Clitic-doubled arguments. In: *Beyond Principles and Parameters* (K. Johnson and I. Roberts, eds.), pp. 13-42. Kluwer, Dordrecht.
- Ausín, A. (2000). Spelling out multiple spell-out. In: *Proceedings of the Nanzan GLOW*, pp. 19-36, Nanzan University, Nagoya.
- Ausín, A. (in preparation). Two types of questions in English. Ms., University of Connecticut, Storrs.
- Avgustinova, T. (1994). On Bulgarian verbal clitics. *Journal of Slavic Linguistics*, 2, 29-47.
- Avgustinova, T. and K. Oliva (1991). The structure of Bulgarian verb complex. CLAUS Report 4, Universität des Saarlandes, Saarbrücken.
- Avgustinova, T. and K. Oliva (1995). The position of sentential clitics in the Czech clause. CLAUS Report 68, Universität des Saarlandes, Saarbrücken.
- Baerman, M. (1998). The evolution of prosodic constraints in Macedonian. *Lingua*, 104, 57-78.

- Baerman, M. and L. Billings (1998). Macedonian clitics and the trisyllabic stress window. *University of Trondheim Working Papers in Linguistics* 31 (M. Dimitrova-Vulchanova, L. Hellan, Ivan Kasabov, and I. Krapova, eds.), pp. 13-32. NTNU Linguistics Department, Dragvoll, Norway.
- Baker, M. (1991). Some subject/object non-asymmetries in Mohawk. *Natural Language and Linguistic Theory*, 9, 537-576.
- Bański, P. (1997). Polish auxiliary clitics: morphology or syntax? In: *ZAS Papers in Linguistics*, Vol. 6, pp. 17-27. Zentrum für Allgemeine Sprachwissenschaft, Berlin.
- Bański, P. (1998). Structural conditions on auxiliary clitic attachment in Polish. Ms., University of Warsaw, Warsaw/Indiana University, Bloomington.
- Barss, A. (1986). *Chains and anaphoric dependence: On reconstruction and its implications*. Doctoral dissertation, MIT, Cambridge, Mass.
- Barss, A. (1992). Questions: Determining binding and VP-adjunction. Paper presented at the University of Connecticut, Storrs, April 1992.
- Belletti, A. (1990). *Generalized verb movement*. Rosenberg and Sellier, Turin.
- Bennett, D. (1986). Towards an explanation of word-order differences between Slovene and Serbo-Croat. *The Slavonic and East European Review*, 64, 1-24.
- Bennett, D. (1987). Word order change in progress: The case of Slovene and Serbo-Croat and its relevance for Germanic. *Journal of Linguistics*, 23, 269-287.
- Berent, G. (1980). On the realization of trace: Macedonian clitic pronouns. In: *Morphosyntax in Slavic* (C. Chvany and R. Brecht, eds.), pp. 150-186. Slavica, Columbus, Ohio.
- Bibović, L. (1971). Some remarks on the factive and non-factive complements in English and Serbo-Croatian. In: *The Yugoslav Serbo-Croatian-English Contrastive Project Studies* Vol. 3 (R. Filipović, ed.), pp. 37-48. Institute of Linguistics, University of Zagreb, Zagreb.
- Billings, L. and C. Rudin (1996). Optimality and Superiority: A new approach to multiple-wh ordering. *Formal Approaches to Slavic Linguistics: the College Park Meeting, 1994* (J. Toman, ed.), pp. 35-60. Michigan Slavic Publications, Ann Arbor.
- Boas, F. (1911). *Handbook of American Indian languages*, 1. Bureau of American Ethnology, Bulletin 40.
- Bobaljik, J. (1994). What does adjacency do? In: *MIT Working Papers in Linguistics* 22 (H. Harley and C. Phillips, eds.), pp. 1-32. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Bobaljik, J. (1995). *Morphosyntax: The syntax of verbal inflection*. Doctoral dissertation, MIT, Cambridge, Mass.
- Bobaljik, J. and D. Jonas (1996). Subject positions and the roles of TP. *Linguistic Inquiry*, 27, 195-236.
- Boeckx, C. (1998). A minimalist view on the passive. In: *UConn Working Papers Occasional Papers in Linguistics* 2. Department of Linguistics, University of Connecticut, Storrs.

[Distributed by MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.]

- Boeckx, C. (1999a). Extractions. Ms., University of Connecticut, Storrs.
- Boeckx, C. (1999b). Properties of interrogatives in French. Ms., University of Connecticut, Storrs.
- Boeckx, C. (2000). A note on contraction. *Linguistic Inquiry*, 31, 357-366.
- Boeckx, C. (in press). Traces of argument structure. *Proceedings of the Texas Linguistic Society Meeting, 1999*, Department of Linguistics, University of Texas at Austin, Austin.
- Boeckx, C. and S. Stjepanović (2000) The clitic/wh-connection: Evidence for unselective attraction. In: *Formal Approaches to Slavic Linguistics: The Philadelphia Meeting, 1999* (T. Holloway King and I. Sekerina, eds.), pp. 22-40. Michigan Slavic Publications, Ann Arbor.
- Boeckx, C. and S. Stjepanović. (in press). Head-ing toward PF. *Linguistic Inquiry*.
- Booij, G. and J. Rubach (1984). Morphological and prosodic domains in lexical phonology. *Phonology Yearbook*, 1, 1-27.
- Booij, G. and J. Rubach (1987). Postcyclic versus postlexical rules in lexical phonology. *Linguistic Inquiry*, 18, 1-44.
- Borer, H., ed. (1986). *The syntax of pronominal clitics. Syntax and Semantics* Vol. 19. Academic Press, Orlando, Fla.
- Borsley, R. and E. Jaworska (1988). A note on prepositions and Case marking in Polish. *Linguistic Inquiry*, 19, 685-691.
- Borsley, R. and M.-L. Rivero (1994). Clitic auxiliaries and incorporation in Polish. *Natural Language and Linguistic Theory*, 12, 373-422.
- Bošković, Ž. (1995). Participle movement and second position cliticization in Serbo-Croatian. *Lingua*, 96, 245-266.
- Bošković, Ž. (1997a). *The syntax of nonfinite complementation: An economy approach*. MIT Press, Cambridge, Mass.
- Bošković, Ž. (1997b). Superiority effects with multiple wh-fronting in Serbo-Croatian. *Lingua*, 102, 1-20.
- Bošković, Ž. (1997c). Fronting wh-phrases in Serbo-Croatian. In: *Formal Approaches to Slavic Linguistics: The Indiana Meeting, 1996* (M. Lindseth and S. Franks, eds.), pp. 86-107. Michigan Slavic Publications, Ann Arbor.
- Bošković, Ž. (1997d). On certain violations of the Superiority Condition, AgrO, and economy of derivation. *Journal of Linguistics*, 33, 227-254.
- Bošković, Ž. (1998a). LF movement and the Minimalist Program. In: *Proceedings of NELS 28* (P. Tamanji and K. Kusumoto, eds.), pp. 43-57. GLSA, University of Massachusetts, Amherst.
- Bošković, Ž. (1998b). Wh-movement and wh-phrases in Slavic. Paper presented at the Comparative Slavic Morphosyntax Workshop, Indiana University, Bloomington, June 1998. (downloadable at <http://www.indiana.edu/~slavconf/linguistics/index.html>)

- Bošković, Ž. (1998c). Multiple wh-fronting and economy of derivation. In: *Proceedings of the Sixteenth West Coast Conference on Formal Linguistics* (E. Curtis, J. Lyle, and G. Webster, eds.), pp. 49-63. CSLI Publications, Stanford, Calif.
- Bošković, Ž. (1998d). On the interpretation of multiple questions. Ms., University of Connecticut, Storrs. (downloadable at <http://mitpress.mit.edu/chomskydisc/Boeckx.html>)
- Bošković, Ž. (1999). On multiple feature-checking: Multiple wh-fronting and multiple head movement. In: *Working minimalism* (S. D. Epstein and N. Hornstein, eds.), pp. 159-187. MIT Press, Cambridge, Mass.
- Bošković, Ž. (2000a). Sometimes in SpecCP, sometimes in situ. In: *Step by step: Essays on minimalism in honor of Howard Lasnik* (R. Martin, D. Michaels, and J. Uriagereka, eds.), pp. 53-87. MIT Press, Cambridge, Mass.
- Bošković, Ž. (2000b). Second position cliticisation: Syntax and/or phonology? In: *Clitic phenomena in European languages* (F. Beukema and M. den Dikken, eds.), pp. 71-119. John Benjamins, Amsterdam.
- Bošković, Ž. (2000c). PF merger in Scandinavian: Stylistic fronting and object shift. Ms., University of Connecticut, Storrs.
- Bošković, Ž. (2000d). On multiple wh-fronting. Ms., University of Connecticut, Storrs.
- Bošković, Ž. (2000e). Floating quantifiers and θ -role assignment. Paper presented at NELS 31, Georgetown University, Washington D.C., October 2000.
- Bošković, Ž. (2000f). Clitics as non-branching elements and the linear correspondence axiom. Ms., University of Connecticut, Storrs.
- Bošković, Ž. and S. Franks (1999). Phonology-syntax interactions in South Slavic. Paper presented at the 3rd Conference on Formal Approaches to South Slavic and Balkan Languages, University of Plovdiv, Plovdiv, September 1999.
- Bošković, Ž. and H. Lasnik (1999). How strict is the cycle? *Linguistic Inquiry*, 30, 691-703.
- Bošković, Ž. and D. Takahashi (1998). Scrambling and last resort. *Linguistic Inquiry*, 29, 347-366.
- Bresnan, J. (1971). *Contraction and the transformational cycle*. Ms., MIT, Cambridge, Mass.
- Brown, S. (1999). *The syntax of negation in Russian*. CSLI, Stanford, Calif.
- Brown, S. (2000). Negative concord in Slavic and Attract all-F. Ms., Harvard University, Cambridge, Mass.
- Brown, S. and S. Franks (1995). Asymmetries in the scope of Russian negation. *Journal of Slavic Linguistics*, 3, 239-287.
- Browne, W. (1974). On the problem of enclitic placement in Serbo-Croatian. In: *Slavic transformational syntax* (R. Brecht and C. Chvany, eds.), pp. 36-52. University of Michigan, Ann Arbor.
- Browne, W. (1975). Serbo-Croatian enclitics for English-speaking learners. In: *Contrastive analysis of English and Serbo-Croatian* Vol. 1 (R. Filipović, ed.), pp. 105-134. University of Zagreb, Zagreb.

- Browne, W. (1980). *Relativna rečenica u hrvatskom ili srpskom jeziku u poredjenju sa engleskom situacijom*. Doctoral dissertation, University of Zagreb, Zagreb.
- Browne, W. (1986). Parameters in clitic placement. Paper presented at the 5th Biennial Conference on Balkan and South Slavic Linguistics, Literature, and Folklore, Indiana University, Bloomington, March 1986.
- Browne, W. (1993). Serbo-Croat. In: *The Slavonic languages* (B. Comrie and G. G. Corbett, eds.), pp. 306-387. Routledge, London.
- Browne, W. (1994). Clitic placement in Slovenian subordinate clauses. Paper presented at the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature, and Folklore, Indiana University, Bloomington, April 1994.
- Buckley, E. (1991). Second position clitics. Ms., University of California, Berkeley, California.
- Burzio, L. (1986). *Italian syntax*. Reidel, Dordrecht.
- Caink, A. (1998). *The Lexical interface: Closed class items in South Slavic and English*. Doctoral dissertation, University of Durham.
- Caink, A. (1999a). Serbian/Croatian/Bosnian clitics at the lexical interface. In: *Formal Approaches to Slavic Linguistics: The Seattle Meeting, 1998* (K. Dziwirek, H. Coats, and C. M. Vakerliyska, eds.), pp. 81-100. Michigan Slavic Publications, Ann Arbor.
- Caink, A. (1999b). The clitic cluster in the Bulgarian DP. Paper presented at the 3rd Conference on Formal Approaches to South Slavic and Balkan Languages, University of Plovdiv, Plovdiv, September 1999.
- Calabrese, A. (1987). Focus structure in Berber: A comparative analysis with Italian. In: *Studies in Berber syntax. Lexicon Project Working Papers 14* (M. Guerssel and K. Hale, eds.), pp. 113-120. Center for Cognitive Science, MIT, Cambridge, Mass.
- Cardinaletti, A. and M. Starke (1999). The typology of structural deficiency: A case study of the three classes of pronouns. In: *Clitics in the languages of Europe* (H. van Riemsdijk, ed.), pp. 185-234. Mouton de Gruyter, Berlin.
- Čašule, I. (1997). The functional load of the short pronominal forms and the doubling of the object in Macedonian. *Journal of Slavic Linguistics*, 5, 3-19.
- Ćavar, D. (1996). Interface phenomena in Croatian and Polish. Hand-out, University of Potsdam.
- Ćavar, D. (in preparation). *Aspects of the syntax-phonology interface*. Doctoral dissertation, University of Potsdam.
- Ćavar, D. and G. Fanselow (1997). Split constituents in Germanic and Slavic. Hand-out, University of Potsdam.
- Ćavar, D. and C. Wilder (1994). "Clitic third" in Croatian. *Eurotyp Working Papers, Grammatical Models Selection*, 6, 19-61.
- Chang, L. (1997). Wh-in-situ phenomena in French. M.A. thesis, University of British Columbia, Vancouver.

- Chen, M. (1990). What must phonology know about syntax? In: *The Phonology-syntax connection* (S. Inkelas and D. Zec, eds.), pp. 19-46. University of Chicago Press, Chicago.
- Cheng, L. and J. Rooryck (2000). Licensing wh-in-situ. *Syntax*, 3, 1-19.
- Chomsky, N. (1957). *Syntactic structures*. Mouton, The Hague.
- Chomsky, N. (1971). Deep Structure, Surface Structure, and semantic interpretation. In: *Semantics; An interdisciplinary reader in philosophy, linguistics and psychology* (D. D. Steinberg and L. A. Jakobovits, eds.), pp. 183-216. Cambridge University Press, New York.
- Chomsky, N. (1986a). *Barriers*. MIT Press, Cambridge, Mass.
- Chomsky, N. (1986b). *Knowledge of language: Its nature, origin, and use*. Praeger, New York.
- Chomsky, N. (1993). A Minimalist Program for linguistic theory. In: *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger* (K. Hale and S. J. Keyser, eds.), pp. 1-52. MIT Press, Cambridge, Mass.
- Chomsky, N. (1994). Bare phrase structure. In: *MIT Working Papers Occasional Papers in Linguistics 5*. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Chomsky, N. (1995). Categories and transformations. In: *The Minimalist Program*. MIT Press, Cambridge, Mass.
- Chomsky, N. (1999). Derivation by phase. In: *MIT Working Papers Occasional Papers in Linguistics 18*. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Chomsky, N. (2000). Minimalist inquiries. In: *Step by step: Essays on minimalism in honor of Howard Lasnik* (R. Martin, D. Michaels, and J. Uriagereka, eds.), pp. 89-155. MIT Press, Cambridge, Mass.
- Chomsky, N. and H. Lasnik (1993). The theory of principles and parameters. In: *Syntax: An international handbook of contemporary research Vol. 1* (J. Jacobs, A. von Stechow, W. Sternefeld, and T. Vennemann, eds.), pp. 506-569. Walter de Gruyter, Berlin.
- Chung-Hye, H. (1998). Cross-linguistic variation in the compatibility of negation and imperatives. *Proceedings of the Seventeenth West Coast Conference on Formal Linguistics* (K. Shahin, S. Blake, and E.-S. Kim, eds.), pp. 1-17. CSLI Publications, Stanford, Calif.
- Cinque, G. (1996). Review Article: The 'Antisymmetric' Program: Theoretical and typological implications. *Journal of Linguistics*, 32, 447-464.
- Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective*. Oxford University Press, Oxford.
- Citko, B. (1998). On multiple wh-movement in Slavic. In: *Formal Approaches to Slavic Linguistics: The Connecticut Meeting, 1997* (Ž. Bošković, S. Franks, and W. Snyder, eds.), pp. 97-113. Michigan Slavic Publications, Ann Arbor.
- Collins, C. (1997). *Local economy*. MIT Press, Cambridge, Mass.

- Collins, C. and H. Thráinsson (1996). VP-internal structure and object shift in Icelandic. *Linguistics Inquiry*, 27, 391-444.
- Comorovski, I. (1996). *Interrogative phrases and the syntax-semantics interface*. Kluwer, Dordrecht.
- Comrie, B. (1976). Irregular stress in Polish and Macedonian. *International Review of Slavic Linguistics*, 1, 227-240.
- Comrie, B. (1981). *Language universals and linguistic typology: Syntax and morphology*. University of Chicago Press, Chicago.
- Comrie, B. and G. G. Corbett, eds. (1993). *The Slavonic languages*. Routledge, London.
- Corver, N. (1992). Left branch extraction. In: *Proceedings of NELS 22* (K. Broderick, ed.), pp. 67-84. GLSA, University of Massachusetts, Amherst.
- Derbyshire, W. (1993). *A basic reference grammar of Slovene*. Slavica, Columbus, Ohio.
- Deržanski, I. (1999). The formation of yes/no questions: Some unexpected restrictions and what they can teach us. Paper presented at the 3rd Conference on Formal Approaches to South Slavic and Balkan Languages, University of Plovdiv, Plovdiv, September 1999.
- Diesing, M. (1996). Semantic variables and object shift. In: *Studies in comparative Germanic syntax* Vol. 2 (H. Thráinsson, S. D. Epstein, and S. Peter, eds.), pp. 66-84. Kluwer, Dordrecht.
- Dikken, M. den. (1994). Auxiliaries and participles. In: *Proceedings of NELS 24* (M. González, ed.), pp. 65-79. GLSA, University of Massachusetts, Amherst.
- Dikken, M. den and E. Hoekstra (1997). Parasitic participles. *Linguistics*, 35, 1057-1089.
- Dimitrova-Vulchanova, M. (1995). Clitics in Slavic. *Studia Linguistica*, 49, 54-92.
- Dimitrova-Vulchanova, M. (1999). The structure of the Balkan nominal phrase: selected issues. Paper presented at the 3rd Conference on Formal Approaches to South Slavic and Balkan Languages, University of Plovdiv, Plovdiv, September 1999.
- Dimitrova-Vulchanova, M. (2000). Possessive constructions and possessive clitic in the English and Bulgarian DP. In: *Clitic phenomena in European languages* (F. Beukema and M. den Dikken, eds.), pp. 121-146. John Benjamins, Amsterdam.
- Dimitrova-Vulchanova, M. and G. Giusti (1998). Fragments of Balkan nominal structure. In: *Possessors, predicates, and movement in the DP* (A. Alexiadou and C. Wilder, eds.), pp. 333-360. John Benjamins, Amsterdam.
- Dimitrova-Vulchanova, M. and G. Giusti (1999). Possessors in DP. In: *Topics in South Slavic syntax and semantics* (M. Dimitrova-Vulchanova and L. Hellan, eds.), pp. 163-192. John Benjamins, Amsterdam.
- Dimitrova-Vulchanova, M. and L. Hellan (1999). Clitics and Bulgarian clause structure. In: *Clitics in the European languages* (H. van Riemsdijk, ed.), pp. 469-514. Mouton de Gruyter, Berlin.
- Dobrovie-Sorin, C. (1994). *The Syntax of Romanian: Comparative studies in Romance*. Mouton

- de Gruyter, Berlin.
- Dogil, G. (1987). Lexical Phonology and floating inflection in Polish. *Phonologica* 1984, 39-47.
- Dornisch, E. (1998). *Multiple wh-questions in Polish: The interactions between wh-phrases and clitics*. Doctoral dissertation, Cornell University, Ithaca.
- Dziwirek, K. (1993). Is there a multiple dative construction in Polish? RG vs Mapping Theory. Ms., Simon Fraser University, Burnaby, British Columbia.
- Elson, M. (1976). The definite article in Bulgarian and Macedonian. *Slavic and East European Journal*, 30, 273-279.
- Elson, M. (1993). Collocational stress in contemporary standard Macedonian. *Slavic and East European Journal*, 37, 149-161.
- Embick, D. (1995). Unifying morphosyntax and phonology: The 'mobile inflections' in Polish. In: *Proceedings of NELS 25* (J. Beckman, ed.), pp. 127-142. GLSA, University of Massachusetts, Amherst.
- Embick, D. and R. Izvorski (1997). Participle-auxiliary word orders in Slavic. In: *Formal Approaches to Slavic Linguistics: The Cornell Meeting, 1995* (W. Browne, N. Kondrashova, and D. Zec, eds.), pp. 210-239. Michigan Slavic Publications, Ann Arbor.
- Epstein, S. D. (1999). Un-principled syntax and the derivation of syntactic relations. In: *Working minimalism* (S. D. Epstein and N. Hornstein, eds.), pp. 317-345. MIT Press, Cambridge, Mass.
- Epstein, S. D., E. Groat, R. Kawashima, and H. Kitahara (1998). *A derivational approach to syntactic relations*. Oxford University Press, Oxford.
- Ewen, R. (1979). *A grammar of Bulgarian clitics*. Doctoral dissertation, University of Washington, Seattle.
- Fowler, G. and S. Franks (1994). DP in Bulgarian. In: *Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature and Folklore* Vol. 7 (G. Fowler, H. Cooper, and J. Ludwig, eds.), pp. 58-68. Indiana Slavic Studies, Bloomington.
- Fox, D. (1994). Relative clauses and resumptive pronouns in Hebrew: An optimality theoretic approach. Ms., MIT, Cambridge, Mass.
- Franks, S. (1987). Regular and irregular stress in Macedonian. *International Journal of Slavic Linguistics and Poetics*, 35/36, 93-142.
- Franks, S. (1989). The monosyllabic head effect. *Natural Language and Linguistic Theory*, 7, 551-563.
- Franks, S. (1993). On parallelism in across-the-board dependencies. *Linguistic Inquiry*, 24, 509-529.
- Franks, S. (1997a). The secret life of Slavic clitics. Paper presented at the University of Connecticut, Storrs, April 1997.
- Franks, S. (1997b). South Slavic clitic placement is *still* syntactic. *Penn Working Papers in Linguistics* 4. *Proceedings of the 21st Annual Penn Linguistics Colloquium*, pp. 111-126.

- Franks, S. (1998a). Clitics in Slavic. Paper presented at the Comparative Slavic Morphosyntax Workshop, Indiana University, Bloomington, June 1998. (downloadable at <http://www.indiana.edu/~slavconf/linguistics/index.html>)
- Franks, S. (1998b). Optimizing linear order and South Slavic Clitics. Paper presented at University of Groningen, December 1998.
- Franks, S. (1999). Optimality Theory and clitics at PF. In: *Formal Approaches to Slavic Linguistics: The Seattle Meeting, 1998* (K. Dziwirek, H. Coats, and C. M. Vakerliyska, eds.), pp. 101-116. Michigan Slavic Publications, Ann Arbor.
- Franks, S. (2000). Clitics at the interface: An introduction to *Clitic phenomena in European languages*. In: *Clitic phenomena in European languages* (F. Beukema and M. den Dikken, eds.), pp. 1-46. John Benjamins, Amsterdam.
- Franks, S. and P. Bański (1999). Approaches to "schizophrenic" Polish person agreement. In: *Formal Approaches to Slavic Linguistics: The Seattle Meeting, 1998* (K. Dziwirek, H. Coats, and C. M. Vakerliyska, eds.), pp. 123-143. Michigan Slavic Publications, Ann Arbor.
- Franks, S. and Ž. Bošković (in press). An argument for multiple spell-out. *Linguistic Inquiry*.
- Franks, S. and T. Holloway King (2000). *A handbook of Slavic clitics*. Oxford University Press, Oxford.
- Franks, S. and L. Progovac. (1994). On the placement of Serbo-Croatian clitics. In: *Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature and Folklore* Vol. 7 (G. Fowler, H. Cooper, and J. Ludwig, eds.), pp. 69-78. Indiana Slavic Studies, Bloomington.
- Freeze, R. (1992). Is there more to V2 than meets the I? *Proceedings of NELS 22* (K. Broderick, ed.), pp. 151-162. GLSA, University of Massachusetts, Amherst.
- Fried, M. (1994). Second-position clitics in Czech: Syntactic or phonological? *Lingua*, 94, 155-175.
- Fried, M. (1999). The "free" datives in Czech as a linking problem. In: *Formal Approaches to Slavic Linguistics: The Seattle Meeting, 1998* (K. Dziwirek, H. Coats, and C. M. Vakerliyska, eds.), pp. 145-166. Michigan Slavic Publications, Ann Arbor.
- Friedemann, M. and T. Siloni (1997). AgrObject is not AgrParticiple. *Linguistic Review*, 14, 69-96.
- Fukui, N. and M. Speas (1986). Specifiers and projection. In: *MIT Working Papers in Linguistics* 8 (N. Fukui, T. R. Rapoport, and E. Sagey, eds.), pp. 128-172. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Giusti, G. and M. Dimitrova-Vulchanova (1996). Quantified Noun Phrase structure in Bulgarian. In: *Formal Approaches to Slavic Linguistics, The College Park Meeting, 1994* (J. Toman, ed.), pp. 123-144. Michigan Slavic Publications, Ann Arbor.
- Golden, M. (1997). Multiple wh-questions in Slovene. In: *Formal Approaches to Slavic Linguistics: The Cornell Meeting, 1995* (W. Browne, E. Dornisch, N. Kondrashova, and

- D. Zec, eds.), pp. 240-266. Michigan Slavic Publications, Ann Arbor.
- Golden, M. and M. Milojević Sheppard (2000). Slovene pronominal clitics. In: *Clitic phenomena in European languages* (F. Beukema and M. den Dikken, eds.), pp. 191-207. John Benjamins, Amsterdam.
- Golston, C. (1995). Syntax outranks phonology: Evidence from Ancient Greek. *Phonology*, 12, 343-368.
- Grimshaw, J. (1990). *Argument structure*. MIT Press, Cambridge, Mass.
- Grinder, J. and P. Postal (1971). Missing antecedents. *Linguistic Inquiry*, 2, 269-313.
- Groat, E. and J. O'Neil (1996). Spell-out at the LF interface. In: *Minimal ideas* (W. Abraham, S. D. Epstein, H. Thráinsson, and C. J.-W. Zwart, eds.), pp. 113-139. John Benjamins, Amsterdam.
- Guasti, M. T., R. Thornton, and K. Wexler (1994). Negation in children's questions: The case of English. In: *Proceedings of BUCLD 19* (D. MacLaughlin and S. McEwen, eds.), pp. 228-239. Cascadilla Press, Somerville, Mass.
- Gussman, E. (1980). *Studies in abstract phonology*. MIT Press, Cambridge, Mass.
- Haegeman, L. (1995). *The syntax of negation*. Cambridge University Press, Cambridge.
- Hagstrom, P. (1998). *Decomposing questions*. Doctoral dissertation, MIT, Cambridge, Mass.
- 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* (K. Hale and S. J. Keyser, eds.), pp. 111-176. MIT Press, Cambridge, Mass.
- Halpern, A. (1992). *Topics in the placement and morphology of clitics*. Doctoral dissertation, Stanford University, Stanford, Calif.
- Halpern, A. (1995). *On the placement and morphology of clitics*. CSLI Publications, Stanford, Calif.
- Hammond, M. (1989). Lexical stress in Macedonian and Polish. *Phonology*, 6, 19-38.
- Hankamer, J. and I. Sag (1976). Deep and surface anaphora. *Linguistic Inquiry*, 7, 391-428.
- Hayes, B. (1989). The prosodic hierarchy in meter. In: *Rhythm and meter. Phonetics and phonology* Vol. 1 (P. Kiparsky and G. Youmans, eds.), pp. 201-260. Academic Press, San Diego.
- Hiramatsu, K. (1997). A production/judgment asymmetry in children's negative questions. Ms., University of Connecticut, Storrs.
- Hiramatsu, K. (2000a). What did Move didn't erase? *UConn Working Papers in Linguistics* 10 (D. Braze, Y. Kudo, and K. Hiramatsu, eds.), pp. 75-110. Department of Linguistics, University of Connecticut, Storrs. [Distributed by MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.]
- Hiramatsu, K. (2000b). *Assessing linguistic competence: Evidence from children's and adults' acceptability judgments*. Doctoral dissertation, University of Connecticut, Storrs.
- Hock, H. H. (1992). What's a nice word like you doing in a place like this. *Studies in Linguistic*

- Sciences*, 22, 39-87.
- Hock, H. H. (1996). Who's on first? Toward a prosodic account of P2 clitics. In: *Approaching second: Second position clitics and related phenomena* (A. Halpern and A. Zwicky, eds.), pp. 199-270. CSLI Publications, Stanford, Calif.
- Holmberg, A. (1986). *Word order and syntactic features in the Scandinavian languages and English*. Doctoral dissertation, University of Stockholm, Stockholm.
- Holmberg, A. (1999). Remarks on Holmberg's generalization. *Studia Linguistica*, 53, 1-39.
- Holmberg, A. and C. Platzack (1995). *The role of inflection in Scandinavian syntax*. Oxford University Press, Oxford.
- Hornstein, N. (1995). *Logical form: From GB to minimalism*. Blackwell, Oxford.
- Hornstein, N. (1998). Movement and chains. *Syntax*, 1, 99-127.
- Hornstein, N. (1999). Movement and control. *Linguistic Inquiry*, 30, 69-96.
- Horvath, J. (1986). *Focus in the theory of grammar and the syntax of Hungarian*. Foris, Dordrecht.
- Huang, C.-T. J. (1993). Reconstruction and the structure of VP: Some theoretical consequences. *Linguistic Inquiry*, 24, 103-138.
- Hurtado, A. (1984). Clitic chains. Ms., Simon Fraser University, Burnaby, British Columbia. [Spanish version published as Hurtado, A. 1989. Las cadenas clíticas. *Revista Argentina de Lingüística* 5, 77-133.]
- Iatridou, S. and A. Kroch (1992). The licensing of CP-recursion and its relevance to the Germanic verb-second phenomenon. *Working Papers in Scandinavian Syntax*, 50, 1-24.
- Inkelas, S. (1989). *Prosodic constituency in the lexicon*. Doctoral dissertation, Stanford University, Stanford, Calif.
- Inkelas, S. and D. Zec (1988). Serbo-Croatian pitch accent: the interaction of tone, stress, and intonation. *Language*, 64, 227-248.
- Izvorski, R. (1993). On wh-movement and focus-movement in Bulgarian. Paper presented at CONSOLE 2, University of Tübingen, December 1993.
- Izvorski, R. (1995). The syntax of clitics in the history of Bulgarian. Paper presented at the 4th Diachronic Generative Syntax Conference, Université du Québec à Montréal, October 1995.
- Izvorski, R. (1996). The syntax and semantics of correlative proforms. *Proceedings of NELS 26* (K. Kusumoto, ed.), pp. 133-147. GLSA, University of Massachusetts, Amherst.
- Izvorski, R. (1998). Non-indicative wh-complements of possessive and existential predicates. *Proceedings of NELS 28* (P. Tamanji and K. Kusumoto, eds.), pp. 159-173. GLSA, University of Massachusetts, Amherst.
- Izvorski, R., T. Holloway King, and C. Rudin. (1997). Against *li* lowering in Bulgarian. *Lingua*, 102, 187-194.
- Jackendoff, R. (1972). *Semantic interpretation in generative grammar*. MIT Press, Cambridge, Mass.

- Jaeggli, O. (1980). Remarks on *to* contraction. *Linguistic Inquiry*, 11, 239-245.
- Jónsson, J. G. (1991). Stylistic fronting in Icelandic. *Working Papers in Scandinavian Syntax*, 48, 1-44.
- Joseph, B. D. (1983). *The synchrony and diachrony of the Balkan infinitive*. Cambridge University Press, Cambridge.
- Kayne, R. (1991). Romance clitics, verb movement, and PRO. *Linguistic Inquiry*, 22, 647-686.
- Kayne, R. (1994). *The antisymmetry of syntax*. MIT Press, Cambridge, Mass.
- Kayne, R. (2000). On the left edge in UG: A reply to McCloskey. *Syntax*, 3, 44-51.
- Kenstowicz, M. (1991). Enclitic accent: Macedonian, Italian, Polish. In: *Certamen Phonologicum II: Papers from the 1990 Cortona Phonology Meeting* (P. M. Bertinetto et al., eds.), pp. 173-185. Rosenberg and Sellier, Turin.
- Kim, J.-S. (1997). *Syntactic focus movement and ellipsis: A minimalist approach*. Doctoral dissertation, University of Connecticut, Storrs.
- King, T. Holloway. (1994). Focus in Russian yes-no questions. *Journal of Slavic Linguistics*, 2, 92-120.
- King, T. Holloway. (1996). Slavic clitics, long head movement, and prosodic inversion. *Journal of Slavic Linguistics*, 4, 274-311.
- Kipka, P. (1989). Impersonals and inflection in Polish. In: *MIT Working Papers in Linguistics* 10 (I. Laka and A. Mahajan, eds.), pp. 135-150. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Kiss, K. (1995). *Discourse configurational languages*. Oxford University Press, New York.
- Klavans, J. (1982). *Some problems in a theory of clitics*. Doctoral dissertation, University College London, London.
- Klavans, J. (1985). The independence of syntax and phonology in cliticization. *Language*, 61, 95-120.
- Koizumi, M. (1994). Layered specifiers. In: *Proceedings of NELS 24* (M. González, ed.), pp. 255-269. GLSA, University of Massachusetts, Amherst.
- Koizumi, M. (1995). *Phrase structure in minimalist syntax*. Doctoral dissertation, MIT, Cambridge, Mass.
- Kornfilt, J. (1986). The stuttering prohibition and morpheme deletion in Turkish. In: *Proceedings of the Turkish Linguistic Conference, 9-10 August 1984* (A. Aksu Koç and E. Erguvanli Taylan, eds.), pp. 59-83. Boğaziçi University, Istanbul.
- Krapova, I. (1997). Auxiliaries and complex tenses in Bulgarian. In: *Formal Approaches to Slavic Linguistics: The Cornell Meeting, 1995* (W. Browne, E. Dornisch, N. Kondrashova, and D. Zec, eds.), pp. 320-344. Michigan Slavic Publications, Ann Arbor.
- Krapova, I. (1999). The system of auxiliaries in Bulgarian. In: *Topics in South Slavic syntax and semantics* (M. Dimitrova-Vulchanova and L. Hellan, eds.), pp. 59-89. John Benjamins, Amsterdam.

- Kraskow, T. (1994). Slavic multiple questions: Evidence for wh-movement. Paper presented at the 68th Annual Meeting of the Linguistic Society of America, Boston, Mass., January 1994.
- Laka, I. (1990). *Negation in syntax: On the nature of functional categories and projections*. Doctoral dissertation, MIT, Cambridge, Mass.
- Lambova, M. (2000). The typology of multiple wh-fronting in Slavic revisited. In: *Formal Approaches to Slavic Linguistics: The Philadelphia Meeting, 1999* (T. Holloway King and I. Sekerina, eds.), pp. 238-258. Michigan Slavic Publications, Ann Arbor.
- Lambova, M. (in press). Wh-phrases in Bulgarian do not form a constituent. *Proceedings of SCIL 11*. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Larson, R. K. (1988). On the double object construction. *Linguistic Inquiry*, 19, 335-391.
- Lasnik, H. (1981). Learnability, restrictiveness, and the evaluation metric. In: *The logical problem of language acquisition* (C. L. Baker and J. McCarthy, eds.), pp. 1-21. MIT Press, Cambridge, Mass.
- Lasnik, H. (1995a). Case and expletives revisited: On Greed and other human failings. *Linguistic Inquiry*, 26, 615-633.
- Lasnik, H. (1995b). A note on pseudogapping. In: *Papers on minimalist syntax, MIT Working Papers in Linguistics 27* (R. Pensalfini and H. Ura, eds.), pp. 143-163. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Lasnik, H. (1995c). Verbal morphology: *Syntactic structures* meets the Minimalist Program. In: *Evolution and revolution in linguistic theory: Essays in honor of Carlos Otero* (H. Campos and P. Kempchinsky, eds.), pp. 251-275. Georgetown University Press, Washington, D.C.
- Lasnik, H. (1999). On feature strength: Three minimalist approaches to feature movement. *Linguistic Inquiry*, 30, 197-217.
- Lasnik, H. (2000). Derivation and representation in modern transformational syntax. In: *The handbook of contemporary syntactic theory* (M. Baltin and C. Collins, eds.), pp. 62-88. Blackwell, Oxford.
- Lasnik, Howard. (in press). Patterns of verb raising with auxiliary *be*. In: *Proceedings of the 1995 UMass Conference on African American English* (K. Broderick and B. Hollebrandse, eds.). GLSA, University of Massachusetts, Amherst.
- Lebeaux, D. (1983). A distributional difference between reciprocals and reflexives. *Linguistic Inquiry*, 14, 723-730.
- Lebeaux, D. (1988). *Language acquisition and the form of the grammar*. Doctoral dissertation, University of Massachusetts, Amherst.
- Legendre, G. (1998). Second position clitics in a verb-second language: Conflict resolution in Macedonian. In: *Proceedings of ESCOL 14* (J. Austin and A. Lawson, eds.), pp. 139-149. CLC Publications, Cornell University, Ithaca.
- Legendre, G. (1999). Morphological and prosodic alignment at work: The case of South-Slavic clitics. *Proceedings of the Seventeenth West Coast Conference on Formal Linguistics* (K.

- Shahin, S. Blake, and E.-S. Kim, eds.), pp. 436-450. CLSI Publications, Stanford, Calif.
- Legendre, G. (2000). Morphological and prosodic alignment of Bulgarian clitics. In: *Optimality theory: Syntax, phonology, and acquisition* (J. Dekkers, F. van der Leeuw, and J. van der Weijer, eds.), pp. 423-462. Oxford University Press, Oxford.
- Leko, N. (1986). *Syntax of noun headed structures in Serbo-Croatian and corresponding phrasal structures in English*. Doctoral dissertation, Indiana University, Bloomington.
- Leko, N. (1999). Functional categories and the DP in Bosnian. In: *Topics in South Slavic syntax and semantics* (M. Dimitrova-Vulchanova and L. Hellan, eds.), pp. 229-252. John Benjamins, Amsterdam.
- Lobeck, A. (1990). Functional heads as proper governors. In: *Proceedings of NELS 20* (J. Carter, R. M. Déchaine, B. Philip, and T. Sherer, eds.), pp. 348-362. GLSA, University of Massachusetts, Amherst.
- Maling, J. (1980). Inversion in embedded clauses in Modern Icelandic. *Islenskt mál*, 2, 175-193. [Republished as Maling, J. (1990). Inversion in embedded clauses. In: *Modern Icelandic syntax. Syntax and Semantics Vol. 24* (J. Maling and A. Zaenen, eds.), pp. 71-91. Academic Press, San Diego.]
- Manzini, R. and A. Roussou (2000). A minimalist theory of A-movement and control. *Lingua* 110, 409-447.
- Marantz, A. (1988). Clitics, morphological merger, and the mapping to phonological structure. In: *Theoretical morphology: Approaches in modern linguistics* (M. Hammond and M. Noonan, eds.), pp. 253-270. Academic Press, San Diego.
- Marantz, A. (1989). Clitics and phrase structure. In: *Alternative conceptions of phrase structure* (M. Baltin and A. Kroch, eds.), pp. 99-116. University of Chicago Press, Chicago.
- Marantz, A. (1993). Implications and asymmetries in double object constructions. In: *Theoretical aspects of Bantu grammar* (S. A. Mchombo, ed.), pp. 113-150. CLSI, Stanford, Calif.
- Maretić, T. (1899). *Gramatika i stilistika hrvatskoga ili srpskoga književnog jezika*. Zagreb.
- Martin, R. and J. Uriagereka (1999). Modification preferences. Ms., Tsukuba University and University of Maryland at College Park.
- Martín-González, J. (2000). (Non-)occurrence of sentential *no* in Spanish negative sentences. *Transactions of the Philological Society*, 98, 161-183.
- Mayer, G. (1988). *The definite article in contemporary standard Bulgarian*. Otto Harrassowitz, Berlin.
- McCloskey, J. (1999). On the right edge in Irish. *Syntax*, 2, 189-209.
- Merchant, J. (1999). *The Syntax of silence: Shuicing, islands, and identity in ellipsis*. Doctoral dissertation, University of California at Santa Cruz, Santa Cruz.
- Mihaljević, M. (1997). The interaction of *li* and negation in Croatian Church Slavonic. In: *Formale Slavistik* (U. Junghanns and G. Zybatow, eds.), pp. 87-92. Vervuert Verlag, Frankfurt am Main.

- Mikoś, M. and E. Moravcsik (1986). Moving clitics in Polish and some cross linguistics generalizations. *Studia Slavica*, 327-336.
- Minova-Āurkova, L. (1987). Particulata *li* vo makedonskiot literaturni jazik. *Godišnik* 29-38, Filološki fakultet na Univerzitetot - Skopje.
- Miyoshi, N. (in preparation). Negative imperatives and PF merger. Ms., University of Connecticut, Storrs.
- Napoli, D. J. (1976). *The two si's of Italian. An analysis of reflexive, inchoative, and indefinite subject sentences in modern standard Italian*. Doctoral dissertation, Harvard University, Cambridge, Mass.
- Nash, L. and A. Rouveret (2000). Clitics, features, and positions. Hand-out, Université Paris 8, Paris.
- Nespor, M. and I. Vogel (1982). Prosodic domains of external sandhi rules. In: *The Structure of phonological representations* (H. van der Hulst and N. Smith, eds.), pp. 225-255. Foris, Dordrecht.
- Nespor, M. and I. Vogel (1986). *Prosodic phonology*. Foris, Dordrecht.
- Nevis, J. (1988). *Finish particle clitics and general clitic theory*. Garland, New York.
- Nunes, J. (1995). *The copy theory of movement and linearization of chains in the Minimalist Program*. Doctoral dissertation, University of Maryland, College Park.
- Nunes, J. (1998). Sideward movement and linearization of chains in the Minimalist Program. Ms., Universidade Estadual de Campinas, Campinas.
- Nunes, J. (1999). Linearization of chains and phonetic realization of chain links. In: *Working minimalism* (S. D. Epstein and N. Hornstein, eds.), pp. 217-249. MIT Press, Cambridge, Mass.
- Ochi, M. (1999). Multiple spellout and PF-adjacency. *Proceedings of NELS 29* (P. Tamanji, N. Hirotani, and N. Hall, eds.), pp. 293-306. GLSA, University of Massachusetts, Amherst.
- Oku, S. (1998). *A Theory of selection and reconstruction in the minimalist perspective*. Doctoral dissertation, University of Connecticut, Storrs.
- Oliva, K. (1998). Just Czech clitic data, or a closer look at the "Position paper: Clitics in Slavic". Paper presented at the Comparative Slavic Morphosyntax Workshop, Indiana University, Bloomington, June 1998.
- Orešnik, J. (1983-1984). Slovenske breznaglasnice se vedejo predusem kot proklitike. *Jezik in Slovtvo*, 29, 129.
- Ortmann, A. and A. Popescu (1999). Balkan postnominal articles are not clitics. Paper presented at the 3rd Conference on Formal Approaches to South Slavic and Balkan Languages, University of Plovdiv, Plovdiv, September 1999.
- Ottósson, K. (1989). VP-specifier subjects and the CP/IP distinction in Icelandic and Mainland Scandinavian. *Working Papers in Scandinavian Syntax*, 44, 89-100.
- Peñčev, I. (1993). *Bŭlgarski sintaksis. Upravljenje i svŭrzhvane*. Plovdivsko Universitetsko

Izdatelstvo, Plovdiv.

- Penn, G. (in press). Linearization and wh-extraction in HPSG: Evidence from Serbo-Croatian. In: *Slavic in HPSG* (R. Borsley and A. Przepiorkowski). CSLI Publications, Stanford, Calif.
- Peperkamp, S. (1997). *Prosodic words*. Holland Academic Graphics, The Hague.
- Percus, O. (1993). The captious clitic: Problems in Serbo-Croatian clitic placement. Ms., MIT, Cambridge, Mass.
- Perlmutter, D. (1972). Evidence for shadow pronouns in French relativization. In: *The Chicago which hunt: Papers from the relative clause festival* (P. Peranteau, J. Levi, and G. Phares, eds.), pp. 73-105. Chicago Linguistic Society, Chicago.
- Pesetsky, D. (1987). Wh-in-situ: Movement and unselective binding. In: *The Representation of (in)definiteness* (E. J. Reuland and A. G.B. ter Meulen, eds.), pp. 98-129. MIT Press, Cambridge, Mass.
- Pesetsky, D. (1997a). Optimality theory and syntax: Movement and pronunciation. In: *Optimality theory: An overview* (D. Archangeli and D. T. Langendoen, eds.), pp. 134-170. Blackwell, Oxford.
- Pesetsky, D. (1997b). Some optimality principles of sentence pronunciation. In: *Is the best good enough?* (P. Barbosa, D. Fox, P. Hagstrom, M. McGinnis, and D. Pesetsky, eds.), pp. 337-383. MIT Press and MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Pesetsky, D. (2000). *Phrasal movement and its kin*. MIT Press, Cambridge, Mass.
- Phillips, C. (1996). *Order and structure*. Doctoral dissertation, MIT, Cambridge, Mass.
- Platzack, C. (1987). The Scandinavian languages and the null subject parameter. *Natural Language and Linguistic Theory*, 5, 377-401.
- Pollock, J.-Y., N. Munaro, and C. Poletto (1998). Eppur si muove! Ms., CNRS, Lyon and University of Padua. (downloadable at <http://mitpress.mit.edu/chomskydisc/polleto.html>)
- Poole, G. (1992). The Case Filter and stylistic fronting in Icelandic. *Harvard Working Papers in Linguistics* 1 (S. Kuno and H. Thráinsson, eds.), pp. 19-31. Department of Linguistics, Harvard University, Cambridge, Mass.
- Poole, G. (1996). Optional movement in the Minimalist Program. In: *Minimal ideas* (W. Abraham, S. D. Epstein, H. Thráinsson, and C. J.-W. Zwart, eds.), pp. 199-216. John Benjamins, Amsterdam.
- Priestly, T. (1993). Slovene. In: *The Slavonic languages* (B. Comrie and G. G. Corbett, eds.), pp. 388-451. Routledge, London.
- Prince, A. and P. Smolensky (1993). *Optimality Theory: Constraint interaction in generative grammar*. Technical Report #2, Rutgers Center for Cognitive Science, Rutgers University.
- Progovac, L. (1993). Locality and subjunctive-like complements in Serbo-Croatian. *Journal of Slavic Linguistics*, 1, 116-145.
- Progovac, L. (1996). Clitics in Serbian/Croatian: Comp as the second position. In: *Approaching*

- second: Second position clitics and related phenomena* (A. Halpern and A. Zwicky, eds.), pp. 411-428. CSLI, Stanford, Calif.
- Progovac, L. (1998a). Event pronominal *to*. *Journal of Slavic Linguistics*, 6, 3-39.
- Progovac, L. (1998b). Determiner Phrase in a language without determiners. *Journal of Linguistics*, 34, 165-179.
- Progovac, L. (1998c). Clitic-second and verb-second. Paper presented at the Comparative Slavic Morphosyntax Workshop, Indiana University, Bloomington, June 1998.
- Progovac, L. (1998d). Clitic clusters and coordination. In: *Proceedings of ESCOL 14* (J. Austin and A. Lawson, eds.), pp. 161-169. CLC Publications, Cornell University, Ithaca.
- Progovac, L. (1999). Eventive *to* and the placement of clitics. In: *Crossing boundaries: Advances in the theory of central and eastern European languages* (I. Kenesei, ed.), pp. 33-44. John Benjamins, Amsterdam.
- Progovac, L. (2000). Where do clitics cluster? In: *Clitic phenomena in European languages* (F. Beukema and M. den Dikken, eds.), pp. 249-258. John Benjamins, Amsterdam.
- Rå Hauge, K. (1976). The Word Order of Predicate Clitics in Bulgarian. *Meddelelser 10, Slavisk-Baltisk Institutt, Universitetet i Oslo*. [Republished as Rå Hauge, K. (1999). *Journal of Slavic Linguistics* 7, 89-137.]
- Radanović-Kocić, V. (1988). *The grammar of Serbo-Croatian clitics: A synchronic and diachronic perspective*. Doctoral dissertation, University of Illinois, Urbana-Champaign.
- Radanović-Kocić, V. (1996). Placement of Serbo-Croatian clitics: A prosodic approach. In: *Approaching second: Second position clitics and related phenomena* (A. Halpern and A. Zwicky, eds.), pp. 429-445. CSLI Publications, Stanford, Calif.
- Rappaport, G. (1988). On the relationship between prosodic and syntactic properties of the pronouns in the Slavonic languages. In: *American contributions to the 10th international congress of slavists: Sofia, September 1988* (A. M. Schenker, ed.), pp. 301-327. Slavica, Columbus, Ohio.
- Rappaport, G. (1992). On the adnominal genitive and the structure of noun phrases in Russian and Polish. In: *Linguistique et slavistique. Mélanges offerts à Paul Garde* (M. Guirard-Weber and C. Zaremba, eds.), pp. 241-262. Publications de l'Université de Provence, Aix-en-Provence.
- Rezac, M. (2000). Syntactic conditions on second position clitics. Paper presented at Formal Approaches to Slavic Linguistics 9, Indiana University, Bloomington, February 2000.
- Rice, C. and P. Svenonius (1998). Prosodic V2 in Northern Norwegian. Paper presented at the Seventeenth West Coast Conference on Formal Linguistics, University of British Columbia, Vancouver, February 1998.
- Richards, N. (1997). *What moves where when in which language?* Doctoral dissertation, MIT, Cambridge, Mass.
- Richards, N. (1998a). The Principle of Minimal Compliance. *Linguistic Inquiry*, 29, 599-619.

- Richards, N. (1998b). Shortest moves to (anti-)superiority. In: *Proceedings of the Sixteenth West Coast Conference on Formal Linguistics* (E. Curtis, J. Lyle, and G. Webster, eds.), pp. 335-349. Stanford University, Stanford, Calif.
- Riemsdijk, H. van. (1998). Head movement and adjacency. *Natural Language and Linguistic Theory*, 16, 633-678.
- Rivero, M.-L. (1991). Long head movement and negation: Serbo-Croatian vs. Slovak and Czech. *The Linguistic Review*, 8, 319-351.
- Rivero, M.-L. (1993). Bulgarian and Serbo-Croatian yes-no questions: V raising to *li* versus *li* hopping. *Linguistic Inquiry*, 24, 567-575.
- Rivero, M.-L. (1994). Clause structure and V-movement in the languages of the Balkans. *Natural Language and Linguistic Theory*, 12, 63-120.
- Rivero, M.-L. (1997). On two locations for complement clitic pronouns: Serbo-Croatian, Bulgarian, and Old Spanish. In: *Parameters of morphosyntactic change* (A. van Kemenade and N. Vincent, eds.), pp. 170-206. Cambridge University Press, Cambridge.
- Rivero, M.-L. and A. Terzi (1995). Imperatives, verb movement, and logical mood. *Journal of Linguistics*, 31, 301-332.
- Rizzi, L. (1982). *Issues in Italian syntax*. Foris, Dordrecht.
- Rizzi, L. (1997). The fine structure of the left periphery. In: *Elements of grammar* (L. Haegeman, ed.), pp. 281-337. Kluwer, Dordrecht.
- Roberts, I. (1991). Excorporation and minimality. *Linguistic Inquiry*, 22, 209-218.
- Roberts, I. (1992). *Verbs and diachronic syntax*. Kluwer, Dordrecht.
- Roberts, I. (1994). Second position effects and agreement in Comp. Paper presented at Formal Approaches to Slavic Linguistics 3, University of Maryland, College Park.
- Roberts, I. (1997). Restructuring, head movement, and locality. *Linguistic Inquiry*, 28, 423-460.
- Rochemont, M. (1986). *Focus in generative grammar*. John Benjamins, Philadelphia.
- Rögnvaldsson, E. and H. Thráinsson (1990). On Icelandic word order once more. In: *Modern Icelandic syntax. Syntax and Semantics Vol. 24* (J. Maling and A. Zaenen, eds.), pp. 3-40, Academic Press, San Diego.
- Rooryck, J. (1992). Romance enclitic ordering and universal grammar. *Linguistic Review*, 9, 219-250.
- Rosen, S. (1989). Two types of noun incorporation: A lexical analysis. *Language*, 65, 295-317.
- Ross, J. R. (1972). Double-*ing*. *Linguistic Inquiry*, 3, 61-86.
- Rudin, C. (1985). Multiple wh-movement and the Superiority Condition. Paper presented at the 59th Annual Meeting of the Linguistic Society of America, Minneapolis, Minn., January 1985.
- Rudin, C. (1986). *Aspects of Bulgarian syntax: Complementizers and wh constructions*. Slavica, Columbus, Ohio.
- Rudin, C. (1988). On multiple questions and multiple wh-fronting. *Natural Language and*

- Linguistic Theory*, 6, 455-501.
- Rudin, C. (1993). On focus position and focus marking in Bulgarian questions. In: *Papers from the 4th Annual Meeting of the Formal Linguistics Society of Midamerica* (A. Davison, ed.), pp. 252-265. University of Iowa, Iowa City.
- Rudin, C. (1997). AgrO and Bulgarian pronominal clitics. In: *Formal Approaches to Slavic Linguistics: The Indiana Meeting, 1996* (M. Lindseth and S. Franks, eds.), pp. 224-252. Michigan Slavic Publications, Ann Arbor.
- Rudin, C., T. Holloway King, and R. Izvorski (1998). Focus in Bulgarian and Russian Yes/No questions. In: *Proceedings of the Workshop on Focus, University of Massachusetts Occasional Papers in Linguistics 21* (E. Benedicto, M. Romero, and S. Tomioka, eds.), pp. 209-26. GLSA, University of Massachusetts, Amherst.
- Rudin, C., C. Kramer, L. Billings, and M. Baerman (1999). Macedonian and Bulgarian *li* questions: Beyond syntax. *Natural Language and Linguistic Theory*, 17, 541-586.
- Rudnitskaya, E. (2000). The derivation of yes-no *li* questions in Russian: syntax and/or phonology? In: *Formal Approaches to Slavic Linguistics: The Philadelphia Meeting, 1999* (T. Holloway King and I. Sekerina, eds.), pp. 347-362. Michigan Slavic Publications, Ann Arbor.
- Runner, J. (1998). *Noun phrase licensing and interpretation*. Garland, New York.
- Sadock, J. (1991). *Autolexical syntax*. University of Chicago Press, Chicago.
- Saito, M. (1985). *Some asymmetries in Japanese and their theoretical implications*. Doctoral dissertation, MIT, Cambridge, Mass.
- Saito, M. and H. Hoshi (2000). The Japanese light verb construction and the minimalist program. In: *Step by step: Essays on minimalism in honor of Howard Lasnik* (R. Martin, D. Michaels, and J. Uriagereka, eds.), pp. 261-295. MIT Press, Cambridge, Mass.
- Saito, M. and K. Murasugi (1990). N'-deletion in Japanese. In: *University of Connecticut Working Papers in Linguistics 3* (J. Ormazabal and C. Tenny, eds.), pp. 87-107. University of Connecticut, Storrs. [Distributed by MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.]
- Saito, M. and K. Murasugi (1993). Subject predication within IP and DP. Ms., University of Connecticut, Storrs.
- Santorini, B. (1994). Some similarities and differences between Icelandic and Yiddish. In: *Verb movement* (D. Lightfoot and N. Hornstein, eds.), pp. 87-106. Cambridge University Press, Cambridge.
- Scatton, E. (1980). On the shape of the Bulgarian definite article. In: *Morphosyntax in Slavic* (C. Chvany and R. Brecht, eds.), pp. 204-211. Slavica, Columbus, Ohio.
- Schachter, P. and F. T. Otnes (1972). *Tagalog reference grammar*. University of California Press, Los Angeles.
- Schütze, C. (1994). Serbo-Croatian second position clitic placement and the phonology-syntax

- interface. *MIT Working Papers in Linguistics* 21 (A. Carnie, H. Harley, and T. Bures, eds.), pp. 373-473. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Selkirk, E. (1986). *Phonology and syntax: The relation between sound and structure*. MIT Press, Cambridge, Mass.
- Selkirk, E. (1995). The prosodic structure of function words. Ms., University of Massachusetts, Amherst.
- Shlonsky, U. (1992). Resumptive pronouns as a last resort. *Linguistic Inquiry*, 23, 443-468.
- Short, D. (1993). Czech. In: *The Slavonic languages* (B. Comrie and G. G. Corbett, eds.), pp. 455-532. Routledge, London.
- Silva-Villar, L. (1998). Morphology and syntax of Romance imperatives: An incomplete history. *Probus*, 10, 115-138.
- Speas, M. (1994). Null arguments in a theory of economy of projection. In: *University of Massachusetts Occasional Papers* 17 (E. Benedicto and J. Runner, eds.), pp. 179-208. GLSA, University of Massachusetts, Amherst.
- Spencer, A. (1991). *Morphological Theory*. Blackwell, Oxford.
- Sportiche, D. (1988). A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry*, 19, 425-449.
- Sproat, R. (1988). Bracketing paradoxes, cliticization, and other topics: The mapping between syntactic and phonological structure. In: *Morphology and modularity* (M. Everaert, A. Evers, R. Huybregts, and M. Trommelen, eds.), pp. 339-360. Foris, Dordrecht.
- Stateva, P. (1999). How optional "optional movement" is? Paper presented at the 3rd Conference on Formal Approaches to South Slavic and Balkan Languages, University of Plovdiv, Plovdiv, September 1999.
- Stateva, P. (2000). What 'simple' clitics tell us about 'complex' nominal expressions. Paper presented at NELS 31, Georgetown University, Washington, D.C., October 2000.
- Steele, S. (1976). On the count of one. In: *Linguistic studies offered to Joseph Greenberg* (A. Juillard, ed.), pp. 591-613. Anma Libri, Saratoga, Calif.
- Stepanov, A. (in press). Late adjunction and minimalist phrase structure. *Proceedings of NELS 30* (M. Hirotani, A. Coetzee, N. Hall, and J-Y Kim, eds.). GLSA, University of Massachusetts, Amherst.
- Stjepanović, S. (1995). Short-distance movement of wh-phrases in Serbo-Croatian matrix clauses. Ms., University of Connecticut, Storrs.
- Stjepanović, S. (1998a). On the placement of Serbo-Croatian clitics: Evidence from VP ellipsis. *Linguistic Inquiry*, 29, 527-537.
- Stjepanović, S. (1998b). On the placement of Serbo-Croatian clitics: Evidence from clitic climbing and VP ellipsis. In: *Formal Approaches to Slavic Linguistics: The Connecticut Meeting, 1998* (Ž. Bošković, S. Franks, and W. Snyder, eds.), pp. 267-286. Michigan Slavic

- Publications, Ann Arbor.
- Stjepanović, S. (1998c). Extraction of adjuncts out of NPs. Paper presented at the Comparative Slavic Morphosyntax Workshop, Indiana University, Bloomington, June 1998.
- Stjepanović, S. (1998d). VP ellipsis in a verb raising language: Implications for verbal morphology. In: *Proceedings of ESCOL 14* (J. Austin and A. Lawson, eds.), pp. 192-203. CLC Publications, Cornell University, Ithaca.
- Stjepanović, S. (1999a). *What do second position cliticization, scrambling, and multiple wh-fronting have in common?* Doctoral dissertation, University of Connecticut, Storrs.
- Stjepanović, S. (1999b). Multiple sluicing and superiority in Serbo-Croatian. *Proceedings of NELS 29* (P. Tamanji, N. Hirotani, and N. Hall, eds.), pp. 145-159. GLSA, University of Massachusetts, Amherst.
- Stjepanović, S. (in press). Scrambling in Serbo-Croatian. *Journal of Slavic Linguistics*.
- Stromswold, K. J. (1990). *Learnability and the acquisition of auxiliaries*. Doctoral dissertation, MIT, Cambridge, Mass.
- Suñer, M. (1993). Negative elements, island effects, and resumptive *no*. Ms., Cornell University, Ithaca.
- Sussex, R. (1980). On agreement, affixation and enclitics in Polish. In: *Morphosyntax in Slavic* (C. Chvany and R. Brecht, eds.), pp. 187-203. Slavica, Columbus, Ohio.
- Szczegielniak, A. (1995). Certain aspects of cliticization in Polish. *Working Papers in Linguistics*, Vol. 2. *Penn Review of Linguistics*, 143-159. University of Pennsylvania, Philadelphia.
- Takahashi, D. (1994). *Minimality of movement*. Doctoral dissertation, University of Connecticut, Storrs.
- Tancredi, C. (1992). *Deletion, deaccenting, and presupposition*. Doctoral dissertation, MIT, Cambridge, Mass.
- Taraldsen, K. T. (1981). The theoretical interpretation of a class of marked extractions. In: *Theory of markedness in generative grammar. Proceedings of the 1979 GLOW conference* (A. Belletti, L. Brandi, and L. Rizzi, eds.), pp. 475-516. Scuola Normale Superiore, Pisa.
- Taylor, A. (1990). *Clitics and configurationality in Ancient Greek*. Doctoral dissertation, University of Pennsylvania, Philadelphia.
- Terzi, A. (1996). Clitic climbing from finite clauses and tense raising. *Probus*, 8, 273-295.
- Thornton, R. (1993). Children who don't raise the negative. Paper presented at the 67th Annual Meeting of the Linguistic Society of America, Los Angeles, Calif, January 1993.
- Thorpe, A. (1991). *Clitic placement in complex sentences in Czech*. Doctoral dissertation, Brown University, Providence.
- Toman, J. (1986). Cliticization from NPs in Czech and comparable phenomena in French and Italian. In: *The syntax of pronominal clitics. Syntax and Semantics* Vol. 19 (H. Borer, ed.), pp. 123-145. Academic Press, Orlando, Fla.

- Toman, J. (1993). A note on clitics and prosody. *Eurotyp Working Papers, Clitics in Germanic and Slavic*, 4, 113-118. [Republished as Toman, J. (1996). In: *Approaching second: Second position clitics and related phenomena*, A. Halpern and A. Zwicky, eds., pp. 505-510. CSLI Publications, Stanford, Calif.]
- Toman, J. (1995). Can Wackernagel effects be derived? Paper presented at Formal Approaches to Slavic Linguistics 4, Cornell University, Ithaca.
- Tomić, O. Mišeska. (1996a). The Balkan Slavic clausal clitics. *Natural Language and Linguistic Theory*, 14, 811-872.
- Tomić, O. Mišeska. (1996b). The Balkan Slavic nominal clitics. In: *Approaching second: Second position clitics and related phenomena* (A. Halpern and A. Zwicky, eds.), pp. 511-536. CSLI Publication, Stanford, Calif.
- Tomić, O. Mišeska. (1997). Non-first as a default clitic position. *Journal of Slavic Linguistics*, 5, 1-23.
- Tomić, O. Mišeska. (1999a). The Macedonian negation operator and cliticness. Ms., University of Novi Sad, Novi Sad.
- Tomić, O. Mišeska. (1999b). On the relationship of negation and mood/modality. Ms., University of Novi Sad, Novi Sad.
- Tomić, O. Mišeska. (2000). On clitic sites. In: *Clitic phenomena in European languages* (F. Beukema and M. den Dikken, eds.), pp. 293-316. John Benjamins, Amsterdam.
- Toporišič, J. (1976). *Slovenska slovnica*. Založba Obzorja, Maribor.
- Torrego, E. (in preparation). Pronouns and determiners: A DP analysis of Spanish nominals. Ms. University of Massachusetts, Boston.
- Townsend, C. (1990). *A Description of spoken Prague Czech*. Slavica, Columbus, Ohio.
- Tranel, B. (1998). Suppletion and OT: On the issue of the syntax/phonology interaction. In: *Proceedings of the Sixteenth West Coast Conference on Formal Linguistics* (E. Curtis, J. Lyle, and G. Webster, eds.), pp. 415-429. Stanford University, Stanford, Calif.
- Travis, L. (1984). *Parameters and effects of word order variation*. Doctoral dissertation, MIT, Cambridge, Mass.
- Travis, L. (1991). Parameters of phrase structure and verb-second phenomena. In: *Principles and parameters in comparative grammar* (R. Freidin, ed.), pp. 339-364. MIT Press, Cambridge, Mass.
- Truckenbrodt, H. (1995). Extraposition from NP and prosodic structure. *Proceedings of NELS 25* (J. Beckman, ed.), pp. 503-517. GLSA, University of Massachusetts, Amherst.
- Uriagereka, J. (1995). Aspects of the syntax of clitic placement in Western Romance. *Linguistic Inquiry*, 26, 79-123.
- Uriagereka, J. (1999). Multiple spell-out. In: *Working minimalism* (S. D. Epstein and N. Hornstein, eds.), pp. 251-282. MIT Press, Cambridge, Mass.
- Veselovská, L. (1995). *Phrasal movement and X⁰ morphology*. Doctoral dissertation, Palacký

- University, Olomouc.
- Vikner, S. (1995). *Verb movement and expletive subjects in the Germanic languages*. Oxford University Press, Oxford.
- Wachowicz, K. (1974). *On the syntax and semantics of multiple questions*. Doctoral dissertation, University of Texas at Austin, Austin.
- Wackernagel, J. (1892). Über ein Gesetz der indogermanischen Wortstellung. *Indogermanische Forschungen*, 1, 333-436.
- Watanabe, A. (1992). Wh-in-situ, subjacency, and chain formation. In: *MIT Occasional Papers in Linguistics 2*. Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Watanabe, A. (1993). *AGR-based Case theory and its interaction with the A-bar system*. Doctoral dissertation, MIT, Cambridge, Mass.
- Watanabe, A. (2000). Loss of overt wh-movement in Old Japanese and demise of "Kakarimusubi". Paper presented at the 6th Diachronic Generative Syntax Conference, University of Maryland, College Park, May 2000.
- Wilder, C. (1996). Rightward movement as leftward deletion. In: *On extraction and extraposition in German* (U. Lutz and J. Pafel, eds.), pp. 273-309. John Benjamins, Amsterdam.
- Wilder, C. (1997a). English finite auxiliaries in syntax and phonology. In: *Clitics, pronouns and movement* (J. R. Black and V. Motapanyane, eds.), pp. 321-62. John Benjamins, Amsterdam.
- Wilder, C. (1997b). Some properties of ellipsis in coordination. In: *Studies in universal grammar and typological variation* (A. Alexiadou and T. Hall, eds), pp. 59-107. John Benjamins, Amsterdam.
- Wilder, C. and D. Ćavar (1994a). Long head movement? Verb movement and cliticization in Croatian. *Lingua*, 93, 1-58.
- Wilder, C. and D. Ćavar (1994b). Word order variation, verb movement, and economy principles. *Studia Linguistica*, 48, 46-86.
- Wilder, C. and D. Ćavar (1997). Verb movement, cliticization, and coordination. Ms., Zentrum für Allgemeine Sprachwissenschaft, Berlin and Universität Hamburg.
- Zanuttini, R. (1997). *Negation and clausal structure: A comparative study of Romance languages*. Oxford University Press, Oxford.
- Zec, D. and S. Inkelas (1990). Prosodically constrained syntax. In: *The phonology-syntax connection* (S. Inkelas and D. Zec, eds.), pp. 365-378. University of Chicago Press, Chicago.
- Zec, D. and S. Inkelas (1992). The place of clitics in the prosodic hierarchy. In: *Proceedings of the Tenth West Coast Conference on Formal Linguistics* (D. Bates, ed.), pp. 505-519. Stanford University, Stanford, Calif.
- Zlatic, L. (1997). *The structure of the Serbian Noun Phrase*. Doctoral dissertation, University of Texas at Austin, Austin.

- Zlatic, L. (1998). Slavic Noun Phrases are NPs, not DPs. Paper presented at the Comparative Slavic Morphosyntax Workshop, Indiana University, Bloomington, June 1998.
- Zubizarreta, M. L. (1998). *Prosody, focus, and word order*. MIT Press, Cambridge, Mass.
- Zwart, C. J.-W. (1993). Verb movement and complementizer agreement. In: *MIT Working Papers in Linguistics* 18 (J. Bobaljik and C. Phillips, eds.), pp. 297-340. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Zwart, C. J.-W. (1995). A note on verb clusters in the Stellingwerfs dialect. In: *Linguistics in the Netherlands 1995* (M. den Dikken and K. Hengeveld, eds.), pp. 215-226. John Benjamins, Philadelphia.
- Zwicky, A. (1979). *On clitics*. Indiana University Linguistic Club, Bloomington, Ind.
- Zwicky, A. and G. K. Pullum (1983). Cliticization vs. inflection: English *n't*. *Language*, 59, 502-513.
- Zwicky, A. and G. K. Pullum (1986). The principle of phonology-free syntax: Introductory remarks. *Ohio State University Working Papers in Linguistics*, 32, 63-91.

INDEX

- A-head, 253
- A-bar head, 253
- A-movement (*also* A-chain), 99, 117, 118, 121, 195, 239
- A-bar-movement (*also* A-bar chain), 99, 116, 117, 178, 195, 239, 271
- Abels, 58, 130, 160, 162, 163
- Abney, 24, 227
- Across-the-Board (ATB) movement, 112
- Acyclic insertion, 245, 246
- Adjacency (*also* Adjacent), 23, 51, 81, 83-87, 89, 92, 103, 119, 121, 127, 137, 138, 148, 149, 154, 155, 168-170, 173, 179, 181, 182, 209, 213, 218, 219, 222-224, 234, 240, 244-250, 252, 253, 258-263, 269, 272-275, 278, 279 *See also* Clitic cluster
- Adjective, 12, 19, 21, 24, 30, 227, 230, 232, 234, 236, 238, 241, 249, 252
- Adjunction, 23-25, 31, 32, 34, 38, 40, 53, 63, 88, 129, 132, 134, 169, 170, 179, 182-188, 190, 192, 194, 196, 197, 201-203, 206, 207, 216, 222, 234, 235, 250, 252, 265
- Adverb (*also* Adjunct), 2, 24, 40-44, 51-56, 61-63, 72, 73, 87, 89, 102, 104, 110, 126, 127, 129, 132-135, 137, 139-143, 164, 166, 180, 181, 187, 189, 194, 224, 241, 243-246, 249, 261, 265, 271
- As intervener, 181, 194, 212, 223, 243-246, 251-253, 275, 276
- Affix, 79, 80, 117, 119, 130, 168, 204, 240, 244, 245, 247-250, 260-265, 272, 277-279, 284
- Aghem, 101
- Agr, 58, 88, 128, 129, 150, 176, 182, 185, 188
- Agrdo, 58, 60, 182, 186, 188, 193 *See also* Clitic, Accusative
- Agrio, 58, 60, 182, 186, 188 *See also* Clitic, Dative
- Agro, 40, 48, 49, 52, 53, 58, 60, 73, 118, 123, 124, 129, 130, 135, 136, 138, 149, 181, 190, 193, 104, 213, 270
- Agrp, 58 *See also* Preposition
- Agrpart, 193 *See also* Participle
- Agrs, 23, 40-44, 97, 128, 132, 134, 138, 139, 142, 149, 150
- Aguado, 170
- Aissen, 83, 95
- Alexander, 180, 215
- Alexandrova, 180, 187
- Alsea, 160

Anaphor, 73

 Deep, 50

 LF movement of, *See* LF, Anaphor movement

 Surface, 50

Anderson, 9, 19, 62, 79, 80-83, 103, 172, 173, 250, 260

Aoun, 187

Appositive, 64-67, 69, 87, 133, 187, 219

Arabic, 115

Aspect, 193

Attract, 102

 All, 102, 105, 186 *See also* Multiple wh-fronting

 Closest, 252

 Multiple, 53

Ausín, 146, 266

Auxiliary, 2, 3, 6, 13, 14, 18, 19, 22-25, 34, 35, 38, 41, 43, 45, 48-56, 59, 60, 63, 76, 77, 87-90, 97, 103, 110, 122-135, 137-142, 144, 148-151, 153, 156, 157, 161, 163, 164, 167, 169, 170, 179, 181, 186, 188-194, 196, 205, 206, 209, 210, 215, 219, 221, 258, 284

 Double, 116, 117

 Non-clitic (*also* Strong), 22, 23, 25, 37, 42, 45, 77, 88, 118-121, 131, 141-143, 192, 194, 243, 245, 246, 269, 270, 272, 273, 275, 276

Avgustinova, 154, 155, 180, 181

Back-tracking, 193, 210 *See also* Scanning for pronunciation

Baerman, 182, 198, 200, 201, 203, 205-208, 211-216, 218-223, 225, 227

Baker, 187

Bański, 170

Barss, 146, 195

Basque, 101, 129

Belletti, 52

Bennett, 65, 153, 164

Berent, 180

Bibović, 249

Billings, 103-105, 182, 198, 200, 201, 203, 205-208, 211-216, 218-223, 225, 227

Binding, 271, 273

Boas, 187

Bobaljik, 99, 119, 120, 121, 129, 130, 176, 245, 252, 272, 274, 275, 276

Boeckx, 25, 60, 99, 102, 103, 114, 128, 147, 173, 187, 254, 266, 269

Booij, 170, 240

- Borer, 187
- Borsley, 26, 169
- Bošković, 7, 9, 18, 22, 23, 25, 32, 35-37, 39-42, 44-48, 52-54, 63, 65, 70, 80, 81, 83, 93, 99-102, 104, 109-111, 114, 117, 118, 123, 129, 132-134, 142-149, 183, 186, 188, 192, 193, 196, 209-211, 224, 245, 247, 248, 266-268, 271
- Bowers, 108
- Bresnan, 81, 245, 266
- Brown, 200, 278, 279
- Browne, 7, 11, 22, 23, 25, 26, 58, 60, 65-67, 102, 130, 131, 134, 153, 159, 164, 249
- Buckley, 160
- Bulgarian, 1, 3, 4, 6, 14, 30, 31, 35, 36, 45, 53, 54, 62, 97, 98, 102-104, 106, 109-112, 136, 143-146, 150, 161, 179-250, 252, 253, 256, 260-269, 279
Rhodopean dialect of, 161
- Burzio, 74
- C⁰,
Serbo-Croatian clitics under, 10, 17, 33, 34, 41, 43-45, 48, 49, 64, 136-140, 144, 151, 152
- Caink, 9, 10, 22, 49, 63, 180, 234, 260
- Calabrese, 101
- Cardinaletti, 196, 201
- Case, 16, 29, 52, 58, 73, 103, 104, 110, 129, 150
- Čašule, 180
- Ćavar, 9, 10, 12-14, 20, 22, 23, 26, 36-38, 44, 48, 49, 51, 57, 65, 71, 72, 89, 90, 204, 238
- Chang, 147
- Change (language), 167, 194, 218, 219, 257-259
- Chen, 166
- Cheng, 147
- Chinese, 146, 147
- Chomsky, 23, 31, 32, 38, 39, 47, 58, 60, 63, 88, 92, 98, 99, 114, 115, 117, 118, 129, 147, 176, 177, 183, 188, 195, 204, 241, 245, 252-254, 266-268, 270, 271, 284
- Chung-Hye, 260
- Cinque, 42, 53, 242
- Citko, 104
- Clause-boundedness, 252
- Cleft, 226, 227, 230, 231, 240
- Clitics,
Accusative, 56-60, 62, 75, 103, 122, 128, 129, 153, 185-187, 193, 194
As non-branching elements, 129, 135, 185, 195-197, 202, 207, 223, 227, 268, 279, 284

- As not structurally fixed, 40, 41, 51, 64, 92, 170, 173
- Auxiliary, *See* Auxiliary; *E*; *Je*
- Clause-mate, 10, 36, 51, 60, 64, 89, 192, 202, 222, 223
- Complementizer, *See* *Li*
- Dative, 56-60, 62, 75, 128, 153, 185-187, 193 *See also* Ethical dative
- Genitive, 59, 60, 75
- Lexical property of, 11, 27, 80-83, 93, 94, 154-156, 159, 162, 163, 165, 257, 258
- Mixed attachment of, 162, 163
- Negative, *See* Negative Marker
- Prepositional, 13, 18, 20, 25, 161, 167
- Pronominal, 2, 3, 34, 38, 48, 49, 51, 55, 63, 74, 97, 115, 123, 125-130, 136, 138-140, 150, 151, 153, 159, 161, 163-165, 168, 171, 179-188, 191-194, 196, 198, 200-209, 214, 218, 219, 223, 260, 262, 263, 265, 267-269
- Reflexive, 60, 128, 151, 153, 155, 162 *See also* *Se*
- Sentence-initial, 4, 7, 9-12, 36, 37, 39, 63, 85, 94, 130, 131, 133, 136, 153, 154, 163, 165, 180, 182, 183, 209, 218
- Split, 51, 54-57, 79, 80, 87-89, 128, 152, 153
- Verbal, 4-6, 97, 110, 168, 179, 182, 194, 202, 214, 218, 223, 257-259, 261
- Vs. affixes, 80
- Vs. full pronouns, 196
- Within NP, 2
- Within VP, 123, 124, 136, 181, 187, 188, 190
- Clitic climbing, 3, 59, 72, 74, 78, 79, 83, 123, 124, 152
- Clitic cluster, 2, 3, 6, 8-10, 20, 21, 34, 36, 37, 49-51, 55-57, 59, 62-64, 86, 87, 92, 94, 97, 125, 127, 128, 130, 138-140, 151-153, 160, 162, 170, 171, 181, 187, 189, 192, 200, 205, 217, 223, 260, 263, 269, 279 *See also* Adjacency
- Clitic doubling, 124, 187
- [+Clitic] feature, 76, 77
- Clitic group, 65, 128, 192, 193, 223
- Clitic left-dislocation, 280, 281
- Clitic weakening, 122-124
- Collins, 39, 107, 193
- Comorovski, 107, 108, 113, 146
- Complementizer, 37
 - Blocking effect of, 44, 45
 - Interrogative, 26, 32, 47, 104, 109-111, 117, 134, 144, 147, 148, 179, 186, 197-248
See also *Li*
 - Relative, 249

- Complex name, *See* Split name
- Complex PP-split, 19-21, 36
- Comrie, 2, 11, 219
- Constituent split, *See* Complex PP-split, Split name
- Constraint-ranking, 62, 83, 84, 136, 258
- Contraction, 14 *See also* Clitic weakening
 Wanna-, 269
- Coordinate structure (*also* Coordination), 14, 15, 48, 49, 64, 66, 90, 158, 159, 266-268
- Co-presence (derivational) model of phonology, 2, 5, 7, 86, 94, 95, 283
- Copula, 22, 75, 103
- Copy (theory), 1, 6, 26, 49, 98-178, 184-245, 253-269, 272
- Corbett, 2
- Corver, 26
- CP-recursion, 68, 203
- Croatian, 23 *See also* Serbo-Croatian
 Church Slavonic, 27
- Czech, 7, 60, 62, 150, 154, 155, 168, 181
- D-linking, 100, 101, 104
- Da*, 37, 136, 137, 161
- Dali*, 131, 134, 245, 247
- Danish, 118, 120 *See also* Scandinavian
- Defectiveness to support a specifier, 33, 34
- Definite element, 120, 121, 271
- Degemination, 72
- Delayed clitic placement, 64-70, 86, 94, 95, 136, 140, 154, 156
- Derbyshire, 153
- Derivationalism, 2, 7, 38, 80, 86, 94, 166, 168, 245, 266, 267, 269, 278, 282, 283
- Deržanski, 227
- Determiner, 12, 21, 25, 76, 234
- Devoicing,
 Word final, 239, 240
- Dialectal variation, 15, 16, 22, 23, 30, 33, 46, 50, 57, 59, 73, 89-91, 103, 107, 110, 112, 113, 152,
 161, 167, 168, 181, 213, 214, 262-265, 281
- Diesing, 120, 121, 271
- Dikken, den, 23, 53, 71, 128
- Dimitrova-Vulchanova, 9, 37, 180, 234
- Diphthongization, 221

Distributed Morphology, 258, 278

Do-support, 117, 277, 278

Dobrovie-Sorin, 110, 122, 123, 181

Dogil, 170

Domain of cliticization, 79, 81-83, 93, 95

Dominance, 81, 82

Dornisch, 170

Double *-ing*, 103

Doubly Filled Comp Filter, 111

Dutch, 23, 119, 132

Dziwirek, 103

E, 179, 192, 193, 216

Earliness, 186, 188, 196

Echo question (*also* Echo wh-phrase), 46, 47, 100, 101, 104, 107-109, 112-116, 207, 247, 267

Economy, 23, 104, 132, 142, 145, 146, 186-188, 194, 196, 201, 203, 204, 267, 268

 Global, 38, 39, 271

 Local, 39, 107

Ellipsis, 34-36, 48-51, 54-58, 61, 71, 79, 80, 87, 126, 127, 136, 153, 235, 236, 241, 246, 253-256

Elson, 215, 234

Embick, 9, 37, 45, 170, 191, 192

Empty Category Principle (ECP), 22-24, 157 *See also* Head government

Enclitic, 4, 6, 11, 13, 20, 27, 36-39, 63, 80, 81, 83, 95, 122-124, 133, 156, 159-162, 165-168, 180, 182, 188, 191, 194, 197, 200, 202, 205, 208, 209, 214, 215-221, 223-225, 234, 256, 261-264, 266, 268, 269

English, 13, 23, 25, 31, 32, 35, 40, 42, 43, 50, 61, 88, 103, 104, 112, 113, 115, 117, 143, 144, 146, 147, 161, 211, 226, 227, 230, 231, 235, 240, 243, 246-248, 252-254, 278

 Child, 116-118

Enlarged Stress Domain (ESD), 214, 215, 217

Epstein, 245, 266

Equidistance, 129, 270

Ethical Dative, 61, 62

Ewen, 180

Excorporation, 23, 132, 142, 169, 170, 193-195, 197, 201, 210, 260, 263

Expletive, 177, 178, 250

Extraposition, 255

Fanselow, 26, 204, 238

- Filtering role of phonology, 1, 5, 9-11, 37, 39, 63, 80-82, 94, 98, 125, 171, 176, 253, 255, 256, 283, 284
- Finite clause (*also* Finite verb), 23, 44, 50, 59, 123, 124, 131, 169, 172, 174, 183, 186, 192, 214, 215, 245, 250, 258, 259, 262- 264
- First phrase (1P) environment, 11, 12, 27, 31
- First phrase (1P) fortress, 22
- First word (1W) environment, 11, 12, 13, 15, 21, 22, 24, 26-28, 30, 31, 33, 79, 90
- First word (1W) fortress, 90, 92
- Focus, 17-19, 26-31, 33, 34, 36, 44, 47, 49, 101, 102, 105-107, 109, 144-146, 148-150, 197, 199, 202, 203, 207, 209, 213, 223-232, 234, 235, 238-241, 244, 267, 271, 284 *See also* Li
 Inflection, 239-244
- Focus Spread, 240- 242
- Form Chain, 195
- Fowler, 234
- Fox, 115
- Franks, 2, 9, 10, 16, 17, 21, 26, 27, 30, 51, 56, 59, 60, 63-65, 67, 70, 74, 83, 87, 100, 106, 109, 112, 114-116, 124, 125, 127, 132, 133, 136, 150, 151-155, 159, 160, 168, 170-173, 178, 180, 181, 184, 187, 193, 194, 198, 200, 210, 214, 215, 218-220, 227, 228, 234, 238, 257, 259-264, 266, 267
- Free order of movement, 53, 54, 104, 106, 177, 186
- Free word order, 12, 135 *See also* Scrambling
- Freeze, 41
- French, 41, 45-47, 147, 247, 248
- Fried, 62, 154, 155
- Friedemann, 193
- Fukui, 34
- Future, 151, 188
- German, 25, 32, 147, 172, 175, 176, 274
- Germanic, 1, 2, 6, 80, 98, 119, 172-175
- Gerund, 49, 90, 152, 220, 221, 259-265
- Giusti, 234
- Golden, 151-154, 157, 158
- Golston, 86, 95, 103
- Greek,
 Ancient, 7, 103
 Modern, 25, 260
- Grimshaw, 72

- Grinder, 50
Groat, 99, 245, 266
Grosu, 122, 123
Guasti, 117
Gussman, 170
- Haegeman, 278
Hagstrom, 147
Halle, 245
Halpern, 9-12, 14, 36, 62, 65, 95, 160, 182, 234, 240
Hammond, 219
Hankamer, 50
Hayes, 65
Head-final language, 119, 274
Head government, 22-24, 157 *See also* Empty Category Principle
Head movement (*also* Head chain; Head adjunction), 23-26, 31-34, 76, 77, 81, 117, 118, 129, 132, 137, 142, 169, 170, 178, 179, 182-185, 188, 190-198, 200-202, 205, 207, 212, 222-226, 232, 234-239, 241, 252, 268, 272 *See also* Adjunction
Head Movement Constraint, 127, 238, 252 *See also* Locality conditions
Heavy (fronted) constituent, 64-67, 70, 86, 87, 95, 136, 149, 158, 164, 165
Heavy NP shift, 94, 255
Hebrew, 115
Hellan, 180
Hindi, 146, 147
Hiramatsu, 99, 100, 117, 118
Hittite, 7
Hock, 9, 67, 95
Hoekstra, 23
Holmberg, 118, 250, 252, 269-275
Homophonous elements,
 Ban on (*also* Anti-homophony effect), 102, 103, 105-107
Hornstein, 99, 104, 146
Horvath, 101
Hoshi, 99
Huang, 32
Hungarian, 101
Hurtado, 187

- Iatridou, 68
- Icelandic, 118-120, 176-178, 188, 195, 249-252, 275 *See also* Scandinavian
- Ilc, 153
- Imperative, 153, 219-221, 259-264
- Inclusiveness Condition, 98
- Incorporation 22, 181, 186, 187, 190, 194, 221
- Indefinite element, 50, 120, 177, 178, 271
- Indicative, 78, 79
- Indo-European, 174
- Infinitive (*also* Infinitival complement), 59, 71-75, 140, 250
- Inkelas, 9, 65, 82, 86, 94, 95, 160, 161, 166
- Interjection, 67
- Intonational phrase (*also* I-phrase), 65-70, 72, 74, 75, 81-90, 94, 95, 128, 130, 133, 136-138, 140, 148, 149, 154, 155, 160, 162, 168-171, 173, 178, 202, 209, 225, 257, 261, 280, 281
- Inversion, *See* Subject, Inversion; Subject-Auxiliary Inversion
- Irish, 115
- Is* final effect, 195, 196, 206 *See also* *E*; *Je*
- Island, 113-115 *See also* Locality conditions; Wh-island
- Italian, 25, 103, 132, 260, 277-280
- Izvorski, 9, 27, 37, 45, 46, 144, 191, 192, 197, 198, 200, 202, 203, 211, 218, 225-227, 232, 234, 243-245, 248
- Jackendoff, 42, 53
- Jaeggli, 269
- Jakaltek, 83, 95
- Japanese,
 Modern, 103, 146, 147
 Old, 240
- Jaworska, 26
- Je*, 23, 33-35, 55, 56, 60, 63, 97, 98, 103, 125-131, 139, 150, 151, 164, 179, 192
- Je li*, 131
- Jonas, 176
- Jónsson, 249-252, 252
- Joseph, 215, 258
- Kawashima, 245, 266
- Kayne, 2, 23, 63, 116, 137, 179, 183, 185, 186, 194, 196, 197, 201, 206, 226, 242, 252, 255, 259, 284 *See also* Rightward movement; Linear Correspondence Axiom

Kenstowicz, 219

Kim, 99

King, 2, 9, 10, 22, 27, 30, 51, 56, 59, 60, 63, 65, 83, 127, 150-155, 159, 168, 170, 180, 181, 198, 200, 211, 225-228, 232, 234, 259, 260

Kipka, 170

Kiss, 18, 101

Kitahara, 245, 266

Klavans, 80-83, 93-96

Koizumi, 104, 111, 148, 185

Kornfilt, 103

Kramer, 182, 198, 200, 201, 203, 205-208, 211-216, 218-220, 222, 223, 225, 227

Krapova, 181

Kraskow, 234, 243

Kroch, 68

Laka, 142

Lambova, 242

Larson, 181, 187

Lasnik, 25, 35, 80, 99, 103, 114, 115, 147, 245, 246, 253-255

Last Resort, 11, 37-39, 88, 102, 105, 115, 183, 277

Lebeaux, 60, 245

Left-branch extraction, 12, 24, 70, 198, 199, 227, 228, 232-236, 238, 240, 284

Legendre, 62, 86, 180, 181, 185, 202, 209, 257, 260

Leko, 21

Lexical Phonology, 119

LF,

 Anaphor movement, 60, 99

 Lexical insertion, 47, 152, 247, 248

Li, 6, 26-31, 33-36, 44, 49, 75, 131, 134, 161, 179, 186, 197-244, 247, 260, 267-269

See also Complementizer; Interrogative; Focus

Light verb, 25

Linear Correspondence Axiom (LCA), 2, 63, 116, 118, 184-186, 197, 201, 203, 206, 226, 242, 252, 284 *See also* Kayne; Rightward movement

Lobeck, 34, 235, 253

Locality conditions, 14, 78, 92, 115, 129, 147, 270, 271

See also Prosodic Inversion; Relativized Minimality; Wh-island

Look-ahead, 2, 5, 7, 38, 39, 83, 86, 95, 105-107, 256, 283

Luiseno, 8, 13

- Macedonian, 1, 3-6, 38, 62, 97, 98, 136, 150, 153, 179-266, 269, 279
 Maling, 249, 250, 252
 Manzini, 99
 Marantz, 11, 83-85, 93, 187, 245
 Maretić, 89
 Martin, 187
 Martín-González, 280, 281
 Mayer, 234
 Mayo, 8, 41
 McCloskey, 255
 Merchant, 235, 236
 Mihaljević, 27
 Mikoś, 170
 Milanese, 279, 280
 Milojević Sheppard, 151, 153, 154, 157, 158
 Minova-Āurkova, 213, 223
 Miyoshi, 260
 Moravcsik, 170
 Morphological Merger, 83, 84, 93 *See also* PF merging
 Move F hypothesis (*also* Feature movement), 23, 117, 147, 254
 Multiple spell-out, 2, 245, 266-269, 272-275, 277, 278, 281, 283
 Multiple wh-fronting, 1, 53, 70, 71, 100, 104-107, 111, 143, 144, 147, 148, 150, 152, 184, 211,
 212, 239, 242, 284 *See also* Attract, All
 Munaro, 147
 Murasugi, 32, 34, 235, 253

 Napoli, 103
 Nash, 196
 Negative constituent, 266, 277-281
 Negative marker (*also* Negation), 1, 2, 6, 70, 117, 142, 143, 161, 198, 199, 201, 206, 207, 213-
 217, 219, 223, 250, 262, 263, 265, 270, 271, 274, 276-281, 284
 Negative polarity item, 79
Neli, 213
 Nespor, 65, 85
 Nevis, 12
 Ngiyambaa, 8
 Non-finite clause (*also* Non-finite verb), 124, 183, 258, 259, 260, 261
 Non-verbal predicate, 221, 256

Norwegian, *See also* Scandinavian

Northern, 172, 174-176

Standard, 120, 174

NP,

Internal structure of, 21, 24, 227, 236 *See also* Split name

Nunes, 100, 112, 116, 118, 125, 203, 204

Object Shift, 1, 2, 6, 118-121, 123, 124, 129, 135, 176, 188, 266, 268-276, 284

Obligatory Contour Principle, 103

Ochi, 34, 245, 246, 252, 266

Oku, 32, 246

Old Church Slavonic, 27

Oliva, 154, 155, 181

O'Neil, 99

Operator, 99, 100, 147, 250, 279

Optimality Theory, 2, 62, 80, 83, 86, 125, 136, 185, 202, 257, 266, 269, 282

Optionality of movement, 23, 37, 42, 73, 74, 101, 119, 120, 132-140, 142, 150, 170, 176, 192, 237, 250, 251

Orešnik, 153, 159

Ortmann, 234

Otanes, 130

Ottósson, 250

Parallelism, 49

Parasitic gap, 112

Parenthetical, 51, 56, 61, 64-67, 87, 89, 126, 140, 141, 153, 159, 189, 251

Parenthetic-split-clitics construction, 51, 54-56, 79, 80, 89, 126, 128, 153

Participle, 23, 36-38, 40-45, 49, 56, 76, 77, 80, 110, 118-121, 123, 124, 129, 130, 132-134, 139, 142, 150, 156, 157, 163, 169, 170, 190-194, 196, 205, 215, 221, 245, 249, 252, 258, 259, 269, 270, 272-276

Double, 41, 80, 191, 192, 194

L-, 215, 258

N-, 261

Particle, 2, 249, 271

Sentential 62

Pashto, 7

Pause, 4, 21, 66-70, 72, 86, 89, 90, 149, 154, 163-167, 173, 180, 218, 219, 224, 225, 257, 261,

- 280, 281, 283 *See also* Intonational phrase
- Penčev, 180, 197, 202, 234
- Penn, 143
- Peperkamp, 80
- Percus, 9, 10, 19, 65, 68, 81, 164
- Periphrastic construction, *See* Auxiliary; Participle
- Perlmutter, 114
- Pesetsky, 83, 100, 104, 114-116, 121
- PF headedness, 84, 85
- PF merging (*also* (PF) merger), 84-87, 89, 90, 93, 119, 209, 245-247, 252, 253, 260, 262-265, 272-281 *See also* Morphological Merger
- PF-movement (*also* Phonological movement), 1, 3, 5, 6, 9, 11, 13, 56, 76, 83, 92-94, 98, 106, 119, 125, 127, 129, 172, 176, 177, 179, 180, 185, 191, 197-199, 201, 203, 206, 226, 228, 253, 255, 256, 269, 271, 273, 283
- Phase, 266-269 *See also* Multiple spell-out
- Phillips, 9
- Phonological border, 271
- Phonological Content Condition, 278, 279
- Phonological liaison, 81
- Phonological phrase, 65, 75-78, 82, 84, 85, 174-176, 209, 238
- Pied-piping, 142, 237, 238
- Platzack, 118, 250, 252, 271
- Poletto, 147
- Polish, 6, 26, 87, 103, 150, 155, 168-171
- Pollock, 147
- Poole, 250-252
- Popescu, 234
- Possessive marker, 34, 236, 240, 278
- Post-cyclic phonology, 240
- Postal, 50
- PP-preposing, 26
- Precedence, 81, 82
- Predicate fronting, 21, 23, 25, 26
- Prefix, 154-156, 160-164, 168, 183
- Preposition, 2, 13, 18-21, 25, 26, 36, 58, 59, 161, 167, 230, 234, 249, 271
- Priestly, 153, 159, 162
- Prince, 83
- Principle of Minimal Compliance, 111, 178

Pro-drop, 2, 43, 129, 135

Proclitic, 4, 6, 11, 13, 25, 38, 81, 122, 123, 156, 160-162, 165-168, 182, 185, 188, 191, 192, 194, 202, 205, 207, 209, 213-215, 218, 219, 221, 223, 243, 256, 257, 259, 261, 266, 269

Progovac, 9, 10, 12, 13, 15, 21, 26, 36-39, 41, 50, 55, 56, 58-60, 63-65, 68, 74, 78, 79, 93, 127, 172, 173

Pronunciation of non-trivial chains, *See Copy (theory)*

Proper Binding Condition, 32

Proper government, 22

Prosodic Inversion (PI), 11-15, 17-22, 24, 26-29, 31, 36, 38, 39, 84, 90-94, 165, 172, 182-185, 188, 191, 198-201, 205-208, 215-220, 222-225, 228-232, 236, 237, 241, 253, 255

See also Locality conditions

Prosodic mapping, 65, 70, 75, 76, 90, 165, 166, 168 *See also Prosodic phrasing*

Prosodic phrasing (also Intonational) phrasing, 65, 69, 75, 76, 165, 166, 225

See also Prosodic mapping

Prosodic readjustment, 165, 166

Prosodic structure, 65, 84, 95, 160 *See also Prosodic mapping; Prosodic phrasing*

Prosodic Word (also Phonological word), 11, 18, 20, 27, 65, 82, 84, 85, 93, 118, 175, 215-217, 247, 262, 263, 265,

Pseudogapping, 254

Pullum, 80, 95

Quantifier,

Existential, 227

Float, 176

Quechua, 101

Question, *See also Echo question; Li; Multiple wh-fronting; Wh-movement*

Embedded (*also Indirect*), 45-47, 212, 224, 248,

Indirect, 46

Interpretation of multiple, 146, 147

Yes/No-, 26, 27, 33, 44, 173, 197-226, 234, 260

Rå Hauge, 180, 260

Radanović-Kocić, 9, 62, 65, 66, 68, 69, 72, 75-79, 81, 82, 89, 90, 92-95, 131, 134, 253

Rappaport, 103, 168, 170, 171

Re-adjustment, 225

Recoverability of deletion, 116

RefIP, 60 *See also Anaphor; Clitics, Reflexive; LF, Anaphor movement*

Relative clause, 248

- Relativized Minimality, 18, 59, 85, 113, 158, 195, 252 *See also* Locality conditions
- Remnant movement, 26, 32, 142, 157-159, 163, 270, 272-275
- Remnant second position effect, 5, 6, 209, 219, 256, 257
- Restructuring, 72-74
- Resumptive pronoun, 115, 116, 121
- Rezac, 154
- Rice, 114, 174-176
- Richards, 53, 100, 111, 178
- Riemsdijk, van, 25
- Right node raising, 255
- Rightward movement (*also* Right(ward) adjunction), 2, 6, 33, 34, 53, 63, 104, 106, 107, 127, 137, 145, 179, 182-186, 188, 190, 194, 195, 197, 198, 200, 201, 203, 205-207, 216, 220, 222, 225, 226, 255, 284 *See also* Kayne; Linear Correspondence Axiom
- Rivero, 9, 10, 22, 37, 44, 169, 180, 181, 185, 211, 252, 259
- Rizzi, 74, 137
- Roberts, 9, 10, 23, 37, 100, 252
- Rochemont, 101
- Romance, 1, 2, 5, 6, 63, 135, 218, 259, 266, 277
- Romanian, 107-114, 121-124, 181, 194
- Röngvaldsson, 250
- Rooryck, 147, 259
- Rosen, 187
- Ross, 103
- Roussou, 99
- Rouveret, 196
- Rubach, 170, 240
- Rudin, 27, 35, 45, 53, 70, 101, 103-105, 109, 111, 144, 145, 148, 180, 182, 184, 187, 198, 200, 201, 203, 205-208, 211-216, 218-220, 222-227, 232, 239, 242
- Rudnitskaya, 27, 202, 203, 268
- Runner, 100
- Russian, 27, 30, 31, 103, 200, 202, 227, 228, 234, 241
- Ryser, 146
- Sadock, 11
- Sag, 50
- Saito, 32, 34, 99, 146, 187, 235, 253
- Sanskrit, 7
- Santorini, 250, 252

- Scandinavian, 1, 2, 6, 118-121, 266, 269-277
- Scanning for pronunciation, 106, 107, 193, 210, 214, 238 *See also* Back-tracking
- Scattered (copy) deletion, 203, 204, 206, 215, 238, 239, 241
- Scatton, 234
- Schachter, 13
- Schütze, 9, 10, 14, 19, 22, 23, 26, 62, 65, 68, 81, 95, 130, 164-166, 168, 261
- Scrambling, 31, 135, 150, 234, 255 *See also* Free word order
- Se* (reflexive), 51, 60, 89, 128 *See also* Anaphor; Clitic, Reflexive; LF, Anaphor movement
- Selectional restriction, 131
- Selkirk, 65, 175
- Serbo-Croatian, 1, 3-95, 97, 98, 100-103, 105-110, 112, 122, 123, 125-159, 161, 163-171, 173, 179, 180, 189, 192, 194, 201, 206, 209, 218, 219, 229, 233-235, 240, 241, 247-249, 256, 257, 283
- Shlonsky, 115
- Short, 154, 155
- Shortest Move, 33, 104, 145, 186, 188, 208 *See also* Locality conditions; Relativized Minimality
- Sideward movement, 112
- Sigma (Σ) Phrase, 142, 143
- Siloni, 193
- Silva-Villar, 259
- Slovenian, 1, 2, 4, 7, 23, 59, 60, 98, 150-168, 171, 173, 192
- Sluicing, 34, 35, 235, 236, 253-255
- Small clause, 273, 275
- Smolensky, 83
- Somali, 101
- Spanish,
 Modern, 48, 260, 280, 281
 Old, 7
- Speas, 34, 278, 279
- Specifier,
 Multiple, 53, 58, 104, 106, 134, 145, 148, 149, 176, 177, 203, 239, 242, 252, 279
 One per phrase, 63
- Spencer, 187
- Split name, 3, 16-19, 29, 230, 234
- Split VP, 185
- Sportiche, 134, 176
- Sproat, 11
- Star-assigning mechanism, 115

- Starke, 196, 201
- Stateva, 234
- Steele, 13
- Stepanov, 103, 245
- Stjepanović, 15, 18, 21, 35, 39, 42, 43, 47, 49-51, 55-60, 73, 87, 98, 101, 102, 127, 128, 134, 135, 144, 149, 255, 256
- Stranded Affix Filter, 80, 117, 204, 277
- Stress, 11-14, 17, 18, 20, 21, 27, 29, 36, 66, 69, 75, 89, 102, 108, 155, 159, 160, 174, 181, 182, 198, 199, 207-211, 213-223, 228, 230-232, 241, 247, 257, 262, 263, 265
- Strict Layer Hypothesis, 175
- Stromswold, 117
- Strong feature (*also* Strength), 31, 32, 37-39, 47, 64, 254
 - Checked by head or phrasal movement, 31, 32, 37
 - Derivational approach to, 39, 47, 254
 - PF-theory of, 38, 39, 254
- Strong phonology approach to second position cliticization, 9, 75-80
- Strong syntax approach to second position cliticization 9, 10, 36-75, 91, 92
- Stylistic fronting, 1, 249-253, 275, 284
- Subjacency, 111, 158 *See also* Locality conditions; Relativized Minimality; Wh-island
- Subject,
 - As intervener, 243-245
 - Gap, 249-251 *See also* Stylistic Fronting
 - Inversion, 135
 - Multiple, 176-178, 195
 - Of predication, 187
- Subject-Auxiliary Inversion (*also* I-to-C movement), 35, 117, 243, 247, 248
- Subjunctive, 78, 79
- Successive cyclic movement, 63, 64, 99, 109, 111, 139, 150, 194, 195, 212, 238, 239, 272
- Suffix, 80, 82-85, 95, 148, 154, 156, 157, 160-166, 168, 170, 173, 180-183, 191, 200, 202, 206, 209, 234, 239, 256, 257
- Suñer, 281
- Superiority effect, 45-48, 104, 105, 145, 146, 152, 186
- Sussex, 170
- Svenonius, 114, 174-176
- Swedish, 41, 269-277 *See also* Scandinavian
- Syllabic weakening, *See* Clitic weakening
- Szczegielniak, 170

- Tagalog, 8, 13
Takahashi, 39, 99, 129, 195
Tancredi, 253
Taraldsen, 255
Taylor, 11
Template (morphological), 62, 63, 97
Terzi, 74, 259
Theta-role,
 As feature, 99
Thornton, 117
Thorpe, 154
Thráinsson, 193, 250
To (eventive), 41
Toman, 7, 60, 154
Tomić, 9, 10, 22, 23, 38, 56, 65, 127, 130, 131, 180, 187, 191, 192, 207, 211, 213, 214, 223, 234,
 256-260, 262
Tone spreading, 167, 168
Topicalization, 32, 113, 114, 139, 150, 224, 225, 270-273, 275, 279-281
Toporošič, 153
Torrego, 187
Townsend, 154
Trace theory, 98, 204 *See also* Copy (theory)
Tranel, 86
Travis, 173
Truckenbrodt, 255
Turkish, 103
Tzotzil, 83, 95
- Uriagereka, 187, 245, 266
Utterance, 65
v, 58
Verb cluster, 23
Verb movement (*also* V-movement), 42-44, 64, 118-120, 135, 136, 186, 187, 254, 260, 269-273,
 275 *see also* Auxiliary; Participle; Subject-Auxiliary Inversion
Verb second (*also* V-2), 1, 6, 7, 23, 41, 80, 98, 114, 118, 172-177, 269, 284
Veselovská, 154
Vikner, 118, 178
Vogel, 65, 85

- Voice Phrase, 37, 60
- VP deletion (*also* VP ellipsis), 35, 50, 51, 54, 55, 57, 58, 61, 71, 79, 87, 126, 127, 153, 189
- VP fronting (*also* VP preposing), 23, 32, 51, 54-57, 61, 76, 77, 79, 80, 89, 90, 126-128, 152, 157-159, 163, 189, 270, 272-275
- Vukić, 33
- Wachowicz, 146
- Wackernagel, 174
- Warlpiri, 7
- Watanabe, 23, 40, 42, 52, 58, 132, 147, 240
- Weak phonology approach to second position cliticization, 9, 48, 80-93
- Weak syntax approach to second position cliticization, 9-36, 39, 92
- Webelhuth, 274
- Wexler, 117
- Wh-in-situ, 47, 108, 111, 112, 116, 146, 147, 247, 248
- Wh-island, 111, 211, 212, 281
- Wh-movement, 31, 35, 37, 45, 47, 49, 78, 79, 99, 102, 104, 106, 108, 110, 113, 115-117, 145-147, 152, 186, 195, 247 *See also* Multiple wh-fronting
- Wilder, 9, 10, 12-14, 22, 23, 26, 36-38, 44, 48, 49, 51, 65, 71, 72, 89, 90, 166, 204
- Zanuttini, 259, 279, 280
- Zec, 9, 65, 82, 86, 94, 95, 166
- Zlatic, 12, 21
- Zubizarreta, 256
- Zwart, 23, 173
- Zwicky, 80, 95