Stony Brook University

OFFICIAL COPY

The DP Category and Serbian Nominal Structure

A Dissertation Presented

by

Ivana LaTerza

to

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of

Doctor of Philosophy

in

Linguistics

Stony Brook University

May 2014

Stony Brook University

The Graduate School

Ivana LaTerza

We, the dissertation committee for the above candidate for the

Doctor of Philosophy degree, hereby recommend

acceptance of this dissertation.

Richard K. Larson and John E. Drury – Dissertation Advisors
Professor, Department of Linguistics
Assistant Professor, Department of Linguistics

John F. Bailyn – Chairperson of Defense
Associate Professor, Department of Linguistics

Daniel L. Finer
Professor, Department of Linguistics

Norbert Hornstein
Professor, Department of Linguistics
University of Maryland, College Park

This dissertation is accepted by the Graduate School.

Charles Taber
Dean of the Graduate School

Abstract of the Dissertation

The DP Category and Serbian Nominal Structure

by

Ivana LaTerza

Doctor of Philosophy

in

Linguistics

Stony Brook University

2014

This thesis investigates nominal structure in Serbian, focusing on the issue of
DP paramaterization. Since the introduction of DP as a syntactic category in
the late 1980s (Fukui and Speas (1986), Abney (1987)), various investigators
have questioned its universality on the basis of "article-less" languages, such
as Japanese and Serbian. Two proposals have emerged. The Universal DP-
Hypothesis holds that all languages project DP (Progovac (1998), Rappaport
(2001), Bašić (2004), Cinque (2005), i.a.). The Parameterized DP-Hypothesis
claims that languages without (definite) articles do not project DP (Fukui (1986),
Corver (1992), Zlatić (1997), Bošković (2005), Despić (2011), i.a.). The second
view holds, in particular, that: (a) D-like elements in DP-less languages are cat-
egorially adjectives/adjective-like elements and/or are NP-adjoined, and (b) the
lack of a DP projection has empirically verified syntactic implications for binding

and extraction. In this thesis I examine data offered to support (a) and (b) and show that it is not persuasive. Specifically, I offer counterarguments to the adjectival view of D-elements (morphological characteristics, copular constructions, stacking, word order and ban on modification of pre-nominal possessives) and to their claimed syntactic position as adjuncts (binding). I also show that two syntactic implications for extractability out of nominals (Left Branch Extraction and Adjunct Extraction) involve incorrect cross-linguistic generalizations and as such, require reexamination. I go on to offer new arguments in favor of the Universal DP-Hypothesis, examining a key syntactic point that has received little attention in the literature, viz., that lack of a DP projection in "article-less" languages will require an NP-adjunct analysis of relative clauses. I discuss apparent selectional dependencies between D-elements and relative clauses that strongly undermine this view. These findings thus support the presence of DP in "article-less" languages, and the broader claim of universality for the functional category set.

Table of Contents

Acknowledgements

Finishing graduate school was not an easy task. Many people helped me get to the end in many different ways. I will start by thanking my advisors: Richard Larson and John Drury.

Richard's criticism, bluntness and persistent reminding to think outside the "Slavic-box" and situate my research in a larger scheme of things were my guidance and inspiration in both good and bad research periods. He taught me to be diligent and patient, and as he liked to say "live with an idea for some time before developing it". He is a truly excellent teacher and advisor who presents arguments and ideas in the most succinct and logical way possible - a skill I greatly admire.

John Drury supported me ever since he joined Stony Brook Linguistics Department. He helped me develop my interests in experimental areas of linguistics and constantly kept pushing me to think of the ways to connect my theoretical research with the experimental: "What is the first experiment that we need to run to provide evidence for this claim?" He was also there to help me get things moving when they got stuck for whatever reason.

John Bailyn was the person who inspired me to do research in generative linguistics and encouraged me to pursue my PhD at Stony Brook. We met in my hometown, Novi Sad, where he came for the EGG school while I was still an undergraduate. I still remember how impressed I was with his enthusiasm and knowledge about linguistics. In his summer school in St. Petersburg, I was given a chance to attend classes of some of the greatest linguists and expand my knowledge of the field. It was such an enriching experience that I went back two more times. John was also my MA advisor, helping me develop my research interest in

relative clauses. He also provided me with much of the relevant literature, unavailable in my homeland at that time. There are many other aspects of my career that John had a great influence on and I thank him for all of them.

Dan was a constant great source of ideas for any project I worked on. He always advised me what direction to take for my research and how to improve it. He is the most patient and caring advisor I have ever met. Whenever I would talk to him about any of my concerns, I felt like talking to a family member.

My English is simply not good enough to describe the greatness of my external committee member, Norbert (I don't even know if Serbian would do it). His outstanding reputation is undoubtedly warranted, in every respect. I have never met anyone so passionate about linguistics (any topic, really!) and advising students. I was extremely lucky to have an opportunity to work with Norbert. A valuable lesson I learnt from him is to question the importance of a research topic from the very beginning by simply asking myself "Why do we care?" Even though he was officially not my advisor, he nevertheless gave me great pointers regarding both my research and "handling" the defense.

Apart from my committee, many people from the Linguistics Department at Stony Brook helped me finish this big project. First and foremost, my office mates and great friends: Andrei Antonenko (thanks for being my Russian informant as well), Mark Lindsay and Poppy Slocum (in alphabetical order; they are all equally important). Without them, this journey would have been much more difficult and much less adventurous. Thanks for all the great times we shared both in and outside our office, indulging in food, libation, conversations... And thanks for resolving all my computer-related difficulties, filing my paperwork, driving me, letting me crash at your place... the list goes on... Many other grad students had a great impact as well: Yukiko Asano, Carlos de Cuba, Susana Huidobro (thanks for being my informant as well), Jiwon Hwang, Miran Kim, Yu-an Lu, Chih-hsiang Shu, Yunju Suh, Jisung Sun, HIsako Takahashi, Marlin Taylor, Ling Wang and Aydogan Yanilmaz. I also owe a lot to the linguistics (and ESL) faculty at Stony Brook: Mark Aronoff (as I said

'We deal with things not as they are but as we apprehend them to be.'

(Trevanian)

Chapter 1

Introduction: Serbian and the DP-Hypothesis

One of the core tenets of generative linguistics is that the human capacity for language is an innate biological endowment. The research from the past half a century suggests that all languages of the world share a common set of grammatical principles, which is standardly referred to as Universal Grammar (UG). Typological studies however show that the capacity for language allows certain kind of variation, commonly alluded to as 'parameters'. That is, human linguistic mechanism is largely fixed up to a certain limited number of variation along some variables. By studying parameters, linguists hope to discover the space of possible human languages. Given the existence of different languages, it is obvious that language is not uniquely specified from birth. The idea is that language acquisition sets the parameters given the linguistic input, i.e., children are assumed to internalize the parameters when acquiring their native language: a child is exposed to linguistic input, scans for the parameter relevant data and sets the space of his native language on the basis of the data.

And while the basic idea of the existence of UG and parameter setting in language acquisition is widely assumed, the nature of parameterization, i.e., the nature of elements that parameters are associated with, is an entirely open question. There are roughly speaking

three parametric models: Parameterized Principles, Parameterized Lexical Elements and Parametrized Categories.

The Parametrized Principles model, which dates back to the earliest thinking about parameterization, associates parameters with the **principles** of UG (Chomsky (1986b)). The main idea is that all languages contain basically the same elements up to idiosyncratic variation and show fundamentally the same phenomena, while the differences among them should be observed in how the UG principles seem to apply. A parameter of this kind that is frequently cited is the Head Parameter. It regulates the position of heads in relation to their complements and, it is argued to have two values: Head-Initial and Head-Final. The parameter accounts for word order differences observed for English-type languages (Head-Initial) and Japanese-type languages (Head-Final) in principled way.

Parameterized Lexical Elements model associates parameters with **individual lexical items** and argues that it is part of the information included in their lexical entry (Borer (1983), Ouhalla (1991), Chomsky (2001)). The prediction this model makes is that a single language can instantiate more than one value to a parameter in terms of different lexical items. That is, values of parameters are associated with particular lexical items and not with particular languages.[1] The idea is thus that the general principles of UG should be the same while the individual lexical elements set parameters that are specific to them.[2] The lexical parameter hypothesis seems most plausible in the domain of functional or closed-class items. Whereas it is natural to think that all languages contain or can contain the same range of content words (nouns, verbs, adjectives), the status of grammatical words (degree words, complementizers, determiners, intensifiers, prepositions, conjunctions) is far less clear in this respect. Languages seem to differ precisely in the presence/absence of the items of this sort (Ouhalla (1991)). So, according to this model, the functional categories are the locus of parametrization.

---

[1]Wexler and Manzini (1987) show that the binding domains for different lexical items differ not only across languages but inside a single language.

[2]The drawback of such a proposal though is that it defeats the original purpose of parameters altogether since the parameters are atomized (Safir (1987)).

Parameterized Categories model shares the idea that the parameterization affects only functional categories but differs from the Parameterized Lexical Elements model in that it argues that the **whole class of categories** are parameters rather than individual lexical items linked to them. In particular, it argues that languages differ in whether or not they have both lexical and functional categories (such as, English for instance) or only lexical categories (such as Japanese), (Fukui (1986)). The latter type hence lacks functional categories in their entirety. The main idea is that the lack of a single functional category entails the lack of all functional categories in a language. So there is a rough division of languages into lexical/functional and lexical.

The picture sketched above shows that the parametric variation basically amounts to either principles (Parameterized Principles model) or, functional projections, i.e., phrasal projections of functional elements (either specific ones: Parameterized Lexical Elements, or in their entirety: Parameterized Categories).

Recently, a startling more refined proposal that builds on the Parameterized Lexical Elements and Parameterized Categories model has been launched: languages can have particular lexical elements that give rise to a subclass of categories which are subject to parametric variation. In particular, Corver (1992), Zlatić (1997), Bošković (2003) and followers propose that languages can lack the functional projection DP, a so-called **Parameterized DP Hypothesis**. The presence of DP is uniquely identified by the presence of the (definite) articles. While Zlatić claims that it is both indefinite and definite articles that are privileged items participating in this parameter setting, Bošković believes that it is only the definite article. Such a proposal entails that the learning mechanism for functional categories (or at least for the DP functional category) is not unstructured: there are particular lexical items within that space that children are looking for, which signal the presence of a category; that is, an implicational hierarchy of learning is involved. Hence, a child learning English and a child learning Serbian for instance, must make radically different conclusions about the syntactic structure of their languages based on the sole presence/absence of the definite

articles. Consider the two sentences below:

(1.1) a) **The** *boy is running.*

     b) ∅   *Dečak   trči.*
         boy   run
     'The boy is running.'   (SERBIAN)

English shows the presence of the definite article, whereas the Serbian sentence lacks this form, despite allowing the same interpretation. Under the picture sketched above, the mere absence of a phonologically overt definite article in Serbian indicates the absence of the whole functional D category. In other words, the definite article sets the DP-parameter.

Note, however, that D, in languages that do have definite articles, like English, is standardly assumed to have lexical instantiations other than the definite article. So, indefinite articles, possessives, quantifiers and demonstratives are standardly assumed to be Ds as well. Serbian, despite lacking articles (both definite and indefinite), has all these elements. Compare the two sentences:

(1.2) a) **That** *boy is running.*

     b) **Taj**   *dečak   trči.*
         that   boy   run
     'That boy is running.'   (SERBIAN)

Apparently, however, the presence of elements that are argued to be instantiations of D in languages that have definite articles, is not enough to license the DP projection in languages that lack definite articles.

There are a number of theoretical assumptions and predictions that such a radical hypothesis entails. This thesis investigates them, focusing on Serbian, a language used as an exemplar of the language lacking DP projection, adding to the existing debate on this topic

(Bašić (2004), Pereltsvaig (2007b), Bailyn (2012), among many others).[3] In this chapter, I address two issues: (a) the nature of DP projection in syntactic and semantic research and, (b) the implications that the Parameterized DP-Hypothesis has for both language acquisition and language structure.

I first investigate the general background questions that are at stake in relation to the Parametrized DP-Hypothesis, starting with the origins of DP, its projection type and, the class of elements that are associated with it. Ever since DP was introduced into syntax, it has been widely assumed that DP is a functional projection, whose lexical instantiations are determiners. As a functional category, it was susceptible to being parametric. The three-decade long research on the parametric status of DP in syntax is a direct confirmation of this. However, the semantic view of determiners contrasts sharply with the syntactic view; determiners are not considered to be functional elements in a syntactic sense: they for instance have argument structure and can assign theta-roles. This inconsistency has not received much attention in the literature although it is irrefutably relevant to the question of parametrization, where functional categories are the locus of it. I start with a short overview of how DP entered syntax and what diagnostic criteria were used to distinguish it from the other non-functional nominal projection, NP. After that, I discuss the syntactic and semantic incompatibility that was a direct consequence of the syntactic proposal that DP is a functional projection, hosting functional elements.

In the second part of the chapter, I turn to the discussion on the parametrization of the DP and its ramifications. In particular, I discuss what the DP-parameter is, what elements are responsible for the parameter setting and what structures are affected by the absence of DP. Even though the DP-parameter is discussed in broad categorial terms, i.e., affecting the whole D category, its proponents actually associate the projection solely with the presence of one particular element from the class of determiners: the definite article. The privileged

---

[3]I am using the term *Serbian* to refer to the language spoken in ex-Yugoslavia (∼45°N, 20°E). I will use this term even when referring to works of authors that use different terms. I am doing this exclusively in order to avoid confusion as to what language is under discussion given that there is a variety of terms available. The lexical choice I made has no political implications whatsoever.

status that the definite article receives in this theory has a big impact on the projection that is being parameterized: it is not the DP in a sense of a category of determiners but DP as confined to a specific lexical item. For the sake of clarification, we might as well refer to this projection as $Def[\text{inite}]Art[\text{icle}]P$. Hence, the parameter in question seems to build on the Cinqueian cartographic model and in its essence claims that languages vary whether or not they have a specific lexical item (definite article) associated with its own projection (DefArtP). Such a claim is <u>quite different</u> from what has been discussed in the literature in the past three decades or so regarding the DP-parameter. The parameterization model that the Parameterized DP-Hypothesis entails then is the one that affects specific lexical items (not categories associated with them) and their non-categorial, item-specific, projections. Having set the general stakes, I will look at some specific consequences in the chapters to follow.

1.1   The Origins of D

In early transformational grammar, determiners were treated as atomic elements that were constituents of larger units, i.e., noun phrases. For instance, the noun phrase *the boy* was prescribed the following Phrase Structure Rule (Chomsky (1957), Chomsky (1965)):[4]

(1.3) NP → **Det** N

The X-bar Theory advanced the field by advocating a rather general, that is, acategorial schema. In other words, all phrases were assumed to underlyingly have the same structure (Chomsky (1970)); hence the use of X as a variable that can be replaced by any lexical element, shown in (1.4).

---

[4]In *Syntactic Structures*, Chomsky uses label T for the definite article, and not *Det*. The actual labels are however irrelevant for the current discussion.

(1.4)

```
                        XP
                       /  \
                      /    \
               SPECIFIER    X'
                           /  \
                          /    \
                        X°   COMPLEMENT
```
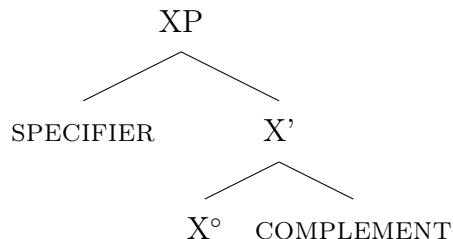
But, the proposed structure was an idealization. Even though it applied to numerous lexical elements, it did not apply to all. Determiners continued to be treated as atomic elements, as they were in the Phrase Structure Rules period. Given the newly proposed structure and the fact that the language of research was English, determiners were placed in a specifier position of a noun phrase yielding the attested linear surface order.

(1.5)

```
                NP
               /  \
              /    \
          Det        N'
          the        |
                     N°
                    boy
```
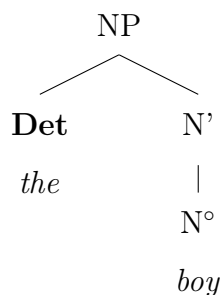
The big step toward extending the X-bar schema to lexical categories other than nouns, verbs, adjectives, was made in Chomsky (1986a). In that work, Chomsky suggested that beside lexical projections (NPs, VPs, etc), there are also functional projections. He proposed two, both of which were in a clausal domain: CP (for complementizers) and IP (for auxiliaries, modals).[5] The basic idea was to extend the concept of projection to a phrasal level from lexical to functional elements. Functional projections were extended projections of lexical heads (Grimshaw (1990)). Chomsky explored this notion only in the clausal domain though. Hence, it did not bring any changes to the treatment of determiners since they were elements appearing in a nominal domain. They continued to be atomic elements hosted in the specifier position of an NP.

---

[5]Larson (forthcominga) traces the idea of the inflection being a head of the clause back to Jeanne (1978).

Note, however, that such a treatment of determiners was inconsistent with the 'updated' X-bar Theory. First, both lexical and functional elements projected to a phrasal level but determiners were still non-phrasal, i.e. atomic. And second, determiners were generated in the specifier position of an NP (as shown in (1.5)) even though specifier positions hosted phrasal categories. In other words, determiners were a contradiction in terms: they were not phrasal but they appeared in a position that hosted phrases.

Not long after Chomsky introduced the idea of functional elements projecting to a phrasal level, it was proposed that determiners, like all other recognized lexical and functional elements, project to a phrasal level. In other words, determiners were not defective any more; they too had phrasal status like all other categories. This proposal is dubbed the **DP-Hypothesis**. Building on previous work of Brame (1982), Szabolcsi (1983) and Fukui and Speas (1986), Abney (1987) posited a DP as the extended projection of the lexical head, the noun.

(1.6)
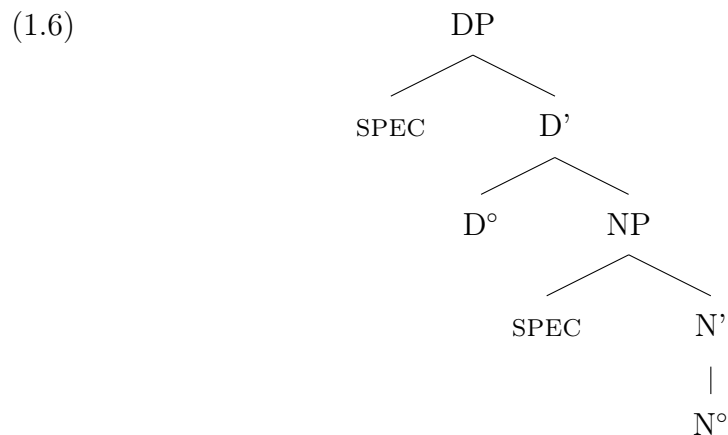
Since functional projections were first introduced in the clausal domain, the idea was to draw a parallel between clauses and nominalizations based on certain distributional similarities between the two (Lees (1960), Szabolcsi (1983)). This led to the principal argument that I(nfl) and D play the same role in the corresponding structures.[6] Thus, just like I(nfl)

---

[6]See Bowers (1991), Bernstein (2001), Coene and D'hulst (2003) and Alexiadou et al. (2007) for an overview of the similarities observed between the clausal and nominal domain.

mediated the subject-verb agreement and assigned case to the subject in a clausal domain, D was argued to do the same in the nominal domain: it mediated the agreement between a subject (=possessor) and a noun and assigned case to the subject.[7] Verbs (VPs) and nouns (NPs) thus had corresponding structures.[8]

(1.7)

IP
├── DP
│   └── John
└── I'
    ├── I° [TNS]
    └── VP
        └── complete
            the plan

(1.8)

DP
├── DP
│   └── John's
└── D'
    ├── D° [AGR]
    └── NP
        └── completion
            of the plan
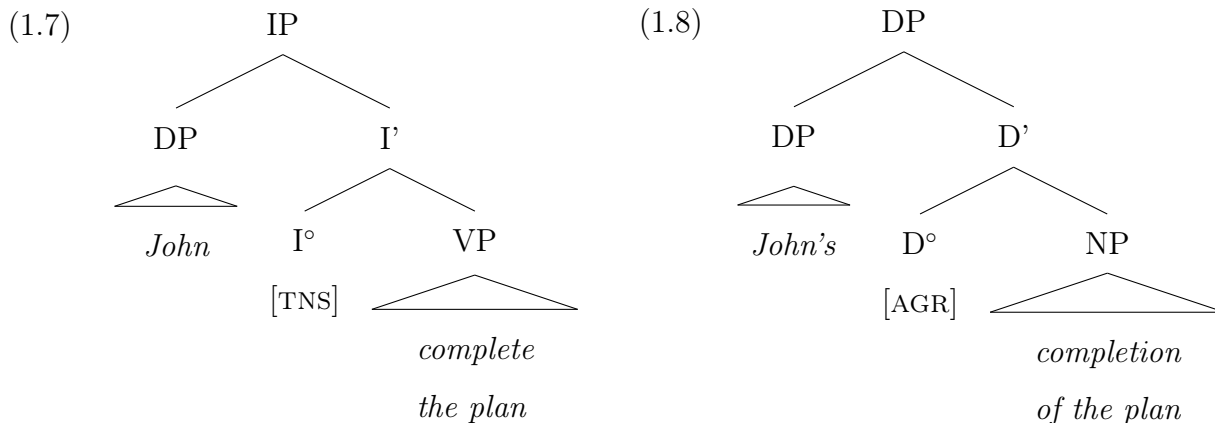
With the introduction of DP into the nominal domain, determiners gained phrasal status. The consequences were expedient: the inconsistencies that the determiners, as atomic elements, caused in the X-bar Theory were resolved and furthermore, a symmetric view of nominal and clausal domain emerged. However, there was another side to it. New inconsistencies emerged: the syntactic and semantic view of determiners were in sharp opposition.

1.2   D and the Syntax-Semantics Interface

On a par with complementizers and modals being associated with CP and IP respectively, Abney associated the class of determiners with the DP. '[I]n the same way that Modal is the class of independent (i.e., non-affixal) words of category I, and Complementizer is the

---

[7]Fukui and Speas (1986) argue that D hosts the possessive morpheme *s* in English. Abney, on the other hand, argues that D hosts a null AGR morpheme which assigns genitive case to the possessor DP and is indicated by the morpheme *s*.

[8]The examples (1.7) and (1.8) are taken from Larson (forthcomingb), p2, ex (1).

class of independent words of category C [...], the natural candidate [for category D] is the class of Determiners.' (Abney (1987), p169) However, the cross-linguistic research of determiners as functional elements hosted in a DP prompted the question whether the proposed functional projection could track the distribution of determiners universally. Even before the DP-Hypothesis, it has been observed that English and Hungarian determiners, for instance, do not exhibit the same behavior: possessors and other lexical determiners (except the quantifier *every*) are in complementary distribution in the former but not in the latter (Szabolcsi (1987)). To account for this difference, Abney adopted Szabolcsi's idea that determiners can be of a different category and concluded that 'Hungarian provides rather striking evidence that determiners head DP and even KP, at least as an option provided by UG.' (Abney (1987), p175) So, in Hungarian, there are determiners that are of category D and there are also determiners of category K (='Komp', a nominal counterpart of the clausal C, i.e., Complementizer) whereas, English determiners can only be of a category D. This idea eventually led to a new way of looking at the DP projection; namely, that there is a much more elaborate structure of DP, the so-called **Split-DP Hypothesis**.[9] An avalanche of functional projections in a nominal domain followed: AgrP, QP, NumP, GenP, KP, FP, DemP, PossP, FocP, TopP, to name but a few (Ritter (1991), Shlonsky (1991), Cinque (1994), Dimitrova-Vulchanova and Giusti (1996), Giusti (1997), Alexiadou (2001), among many others). Such a cartographic view of D was a grammatical formalism that incorporated an unrestricted number of functional projections and did not entail any deeper understanding of nominal structure.

Such 'separation' of the determiners and their mapping into different functional projections within a DP contrast sharply with the semantic view of determiners. In the semantics literature, determiners were largely argued to be quantificational across the board. That is, besides quantifiers as obvious candidates for a quantificational treatment, complex demon-

---

[9]The same trend is found in a clausal domain. A number of authors proposed that there are numerous additional projections within CP and IP (Pollock (1989), Rizzi (1997), Cinque (1999), among many others).

stratives (King (2001)) and definite and indefinite articles (Russell (1905)) were argued to be quantificational as well. For semanticists, thus, determiners formed a natural class: the class of quantifiers. This unifying quantificational view of determiners in semantics did not match the differential cartographic layout argued for in syntax. To my knowledge, this mismatch has been neglected in the literature.

Furthermore, the syntactic DP projection was argued to be functional (on a par with IP). Functional elements, Abney claimed, differed from lexical elements in that they had certain properties specific to them, not all of which were equally significant. The crucial one is the following: 'Functional elements lack what I will call "descriptive content". Their semantic contribution is second-order, regulating or contributing to the interpretation of their complement. They mark grammatical or relational features, rather than picking out a class of objects.' (Abney (1987), p44) He further described it as '[...] the property consistently chosen by traditional grammarians to characterize functional elements. Aristotle defines functional elements simply as "words without meaning" in contrast to thematic elements, "words with meaning".' (ibid.) Thus, for Abney, the <u>crucial</u> difference between functional and lexical elements is that the functional elements lack descriptive content: they do not assign thematic roles, they lack valence, and they are integrated into syntax via 'special' type of selection, so-called functional selection.

Such a view of determiners is again in sharp opposition to the view held in semantics literature, in particular the Generalized Quantifier (GQ) theory (Barwise and Cooper (1981)) (as discussed in Larson (1991) and subsequent work). GQ theory advocates a so-called **Relational View of Determiners**, which assumes that Ds express relations among predicate meanings, i.e. they do <u>not</u> lack descriptive content.

(1.9) (taken from Larson (forthcomingb), p3, exs (3b) and (4))

    a) ALL(X,Y) iff $Y \subseteq X$

    b) SOME(X,Y) iff $Y \cap X \neq \emptyset$

    c) NO(X,Y) iff $Y \cap X = \emptyset$

    d) THE(X,Y) iff $Y \subseteq X$ & $|Y| = 1$

    e) BOTH(X,Y) iff $Y \subseteq X$ & $|Y| = 2$

    f) NEITHER(X,Y) iff $Y \cap X = \emptyset$ & $|Y| = 2$

    g) MOST(X,Y) iff $|Y \cap X| > |Y \cap X|$

The two lines of research: the Relational View of Determiners on the one hand and, the DP-Hypothesis on the other, 'although superficially convergent in their view of D as the head of the nominal, [are], in fact, incompatible at a deeper level.' (Larson (forthcomingb), p1) The incompatibility concerns the semantic content of D: the former assumes that Ds do not lack the semantic content whereas the latter assumes that they do.

To my knowledge, there is only one proposal that successfully settles this tension (Larson (forthcomingb)). As such, I take it to be preferable to any other proposal and I will adopt it in my research. In a nutshell, Larson proposes that (a) Ds do not lack descriptive content (they express relations between properties or concepts: the Relational View of Determiners) and, (b) Ds take noun phrases as their complements (Ds select for NPs: the DP-Hypothesis). The principal argument is that instead of drawing a parallel between Ds and Is (as Abney did), the parallel should be drawn between Ds and Vs. According to Larson, Ds very much resemble Vs at the semantic-thematic level. First, Ds possess argument structure and valence just like Vs do. And accordingly, Ds can be divided into (a) intransitive (pronouns, as shown in (1.10)), (b) transitive (binary quantifiers, as shown in (1.11)) and, (c) ditransitive Ds (comparatives and quantifiers with exception phrases, as shown in (1.12)).[10] [11]

---

[10]Larson (forthcomingb) notes that Ds are predicates of sets rather than predicates of individuals.

[11]The tree structures are taken from Larson (forthcomingb), p6, exs (9b), (10b) and (11b) respectively.

(1.10) INTRANSITIVE D

DP
Pro   D
        |
        he

(1.11) TRANSITIVE D

DP
Pro   D'
       D   NP
       |
       all   *women*

(1.12) DITRANSITIVE D

DP
Pro   D'
       D   DP
       |
       more   NP   D'
               men   D   PP
                        |
                        more   *than women*
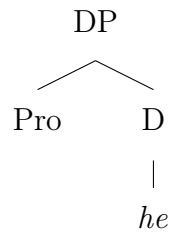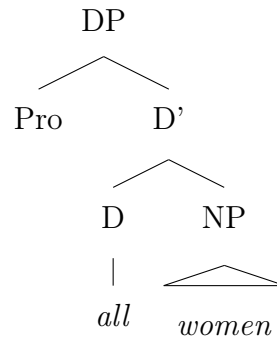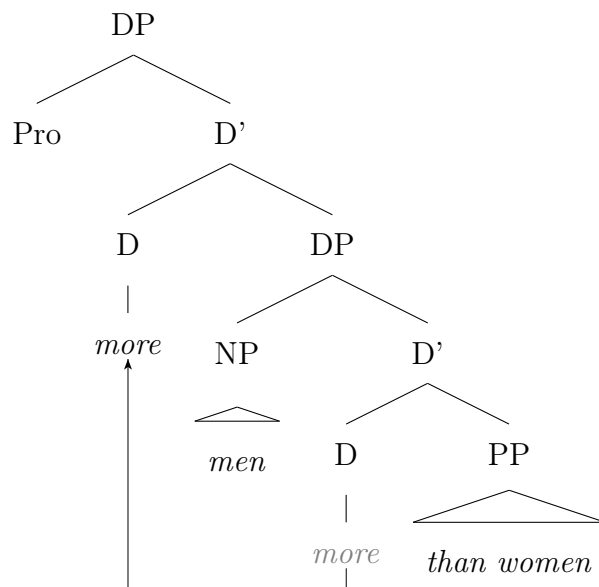
Second, the assignment of θ-roles and the θ-hierarchy associated with Vs can be extended to Ds. Vs assign θ-roles to their arguments which they play in the events described by Vs. Likewise, Ds assign θ-roles to their set arguments which they play in quantification expressed by Ds. Building on the theory of argument projection (Larson (1988)), little d is introduced

14

in the structure, rendering the so-called **dP-shell**. I will discuss specifics of the proposal in §Chapter 4.

(1.13)
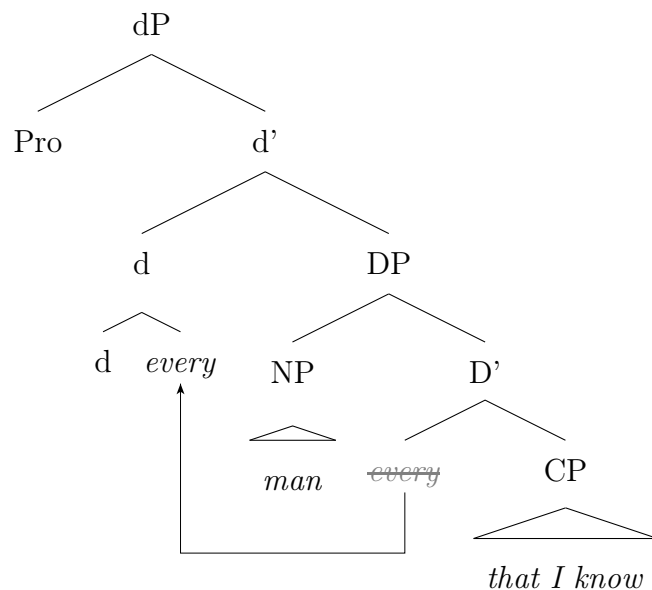
The dP-shell system not only settles the tension between the treatment that Ds received in syntax and semantics, but it also maintains 'a uniform view of selection for determiners counterpart to a uniform view of selection by verbs.' (Larson (2008), p16) Determiners are thus not functional elements and the DP projection is not functional either.

Note that it is generally assumed that lexical elements have uniform properties across languages.

> Thus, in all languages the verb *give*, for example, selects two arguments as complements, a fact which follows from its conceptual/semantic structure. On the other hand, functional categories are known to have idiosyncratic properties, that is properties which differ from one language to another. [For example,] a given functional category may select a specific category in one language and a different one in another, thus giving rise to a difference in the arrangements of these categories in the structure. (Ouhalla (1991))

In this respect then, determiners exhibit properties of lexical elements: to my knowledge there is no variation among languages as to how many complements determiners take; i.e.,

in all languages the quantifier *all*, for example, takes two arguments as complements.

Such a proposal, namely that determiners are not functional elements, directly bears on the question of their parametric variation. As elements that do not lack descriptive content, determiners do not have the <u>crucial</u> property of functional elements. If so, they are not subject to parametric variation: 'If substantive elements (verbs, nouns, etc.) are drawn from an invariant universal vocabulary, then only functional elements will be parametrised' (Chomsky (1988), p2). Hence, the question regarding the universality of DP loses its relevance since no such question should have ever been posed. However, to defend such a view, it is important to thoroughly investigate what prompted researchers to pose such a question in the first place.

1.3   On the Universality of D

There are two crucial assumptions that the DP-Hypothesis makes which are directly relevant for the discussion on the parametric variation of DP. The first one is that DP is a functional projection. Since only functional projections are subject to parametric variation (as discussed in the Parameterized Lexical Elements and Parameterized Categories models above), it follows that DP might be such. However, in order to determine whether a certain functional projection is present in a language or not, it is necessary to examine the distribution of elements associated with it. This brings us to the second crucial assumption of the DP-Hypothesis: elements associated with the D category are determiners (definite and indefinite articles, possessives, quantifiers and demonstratives). Hence, the cross-linguistic research on the distribution of these elements is crucial for determining the parametric variation of DP.

The first person to discuss parametric variation of DP cross-linguistically, to my knowl-

edge, was Fukui (1986). He investigated nominal structure in Japanese and argued that Japanese lacks DP, i.e., nouns do not have an extended functional projection - they are simply NPs. The lack of a DP projection in Japanese was argued to be related to the lack of functional projections in their entirety in the language. To strengthen the claim that there is no DP, Fukui made two observations, both regarding the distribution of determiners in this language. The first one is that Japanese does not have articles. Fukui claims that '[t]his fact lends initial support for the claim that Japanese lacks a Functional category D.' (Fukui (1986), p199) So, in Japanese, (1.14) is a perfectly acceptable structure even though an object noun is without an article:

(1.14) (taken from Fukui (1986), p199, ex (17a))

John-ga   **hon-o**   *yonda*
John-NOM   book-ACC   read
lit. *'John read book.'   (JAPANESE)

The second observation is that Japanese demonstratives, unlike English ones, can co-occur with possessives. Fukui took this to 'indicate that Japanese demonstratives behave like English prenominal modifiers.' (Fukui (1986), p203)

(1.15) (taken from Fukui (1986), p202, ex (24b))

John-no   *ko-no*   *hon*
John-GEN   this-GEN   book
lit.*'John's this book'   (JAPANESE)

The two observations taken together led him to the following conclusion: 'In the absence of any other plausible candidates for a Functional head D in Japanese, I conclude that this language lacks the Functional category D.' (Fukui (1986), p203)[12]

---

[12]But see Watanabe (2006) for arguments against Fukui's proposal.

A few comments are in order. First, note that articles are not the only elements associated with D category, as already mentioned. Other lexical instantiations of D include possessives, quantifiers and demonstratives, all of which exist in Japanese. Therefore, Fukui's claim that the lack of articles excludes any other plausible candidate for a D projection seems to be an overgeneralization. Nevertheless, as we will see shortly, this idea has had a large impact on the research to follow.

Second, the observation that demonstratives and possessives can co-occur is similarly taken in general terms. There is no discussion of other determiners and how do they behave with respect to co-occurrence with one another. Again, an incomplete paradigm is at stake.

Furthermore, the co-occurrence of demonstratives and possessives (as well as other determiners) was observed in Hungarian ((Szabolcsi (1987)) and discussed in (Abney (1987))). This observation was however not taken to mean that Hungarian lacks DP but rather to indicate that there is a more elaborate structure within a DP (as discussed above). It seems odd to conclude that the same distribution of the same types of determiner in two different languages leads to divergent conclusions.

However, there is a potentially different way of understanding Fukui's proposal. If it were set in a cartographic (Cinquean) framework, articles, possessives, quantifiers and demonstratives could be argued to all have their own projections. The question of parametric variation would then not be the one concerning the D category but some functional projection within a DP. This is <u>not</u> what Fukui claimed. For him, DP was understood as a projection hosting determiners. He did, however, hint at the possibility that Japanese might have a functional D head: 'It might be possible to consider Japanese Case particles as Functional heads comparable to D in English, thus forming a Functional projection KP ("Kase Phrase" [...]). I will not pursue this possibility here, although the "KP" idea seems to provide a refreshing cross linguistic perspective and is definitely worth pursuing in the future research.' (Fukui (1986), p264, ft.11) Such a consideration could point to an underlyingly cartographic approach to D that Fukui might have had in mind. But, this is a mere speculation.

Zlatić (1997) argued that Serbian, like Japanese, also lacks a DP. She, in a sense, 'revived' Fukui's original observation but limited it to one functional category, namely DP. She argued for a cross-linguistic generalization: 'headedness of a noun phrase is a language specific property, related to the presence/absence of definite/indefinite articles in a given language.' (Zlatić (1997), Ch1, p1) Articles were given a privileged status among determiners and their sole presence indicated the presence of DP in a language.

Like Fukui, Zlatić also discussed elements associated with the D category other than articles. I will often refer to them as D-like elements. She provided several sets of arguments to defend her proposal that Serbian D-like elements are not instantiations of D: (a) Serbian nominal expressions can be determiner-less (on a par with Japanese, as shown in (1.14)), (b) D-like elements have morphological characteristics of adjectives and, (c) D-like elements can be extracted just like regular adjectives (Corver (1992)). I will come back to each of these arguments and discuss them in detail in the chapters to follow. The conclusion that she drew from these observations was that demonstratives[13] and indefinite determiners are syntactically adjectives while quantifiers are either adjectives or nouns in Serbian. Crucially though, none of these elements were categorized as Ds. Furthermore, based on attested possible word orders among Serbian D-like elements, Zlatić argued that they are in different adjunct positions: quantifiers and demonstratives are adjuncts of NP whereas possessives (and regular adjectives) are adjuncts of N'.

---

[13]In the third chapter of her thesis, Zlatić actually argues that some demonstratives can be either adjectives or nouns. I will discuss these instances in §Chapter 2.

(1.16) (taken from Zlatić (1998), p10, ex (20))

a) *sve   ove   Jovanove   stare   slike   njegove   porodice*
   all   these   John.POSS   old   pictures   his   family
   'all these old pictures of John's of his family'   (SERBIAN)

b)
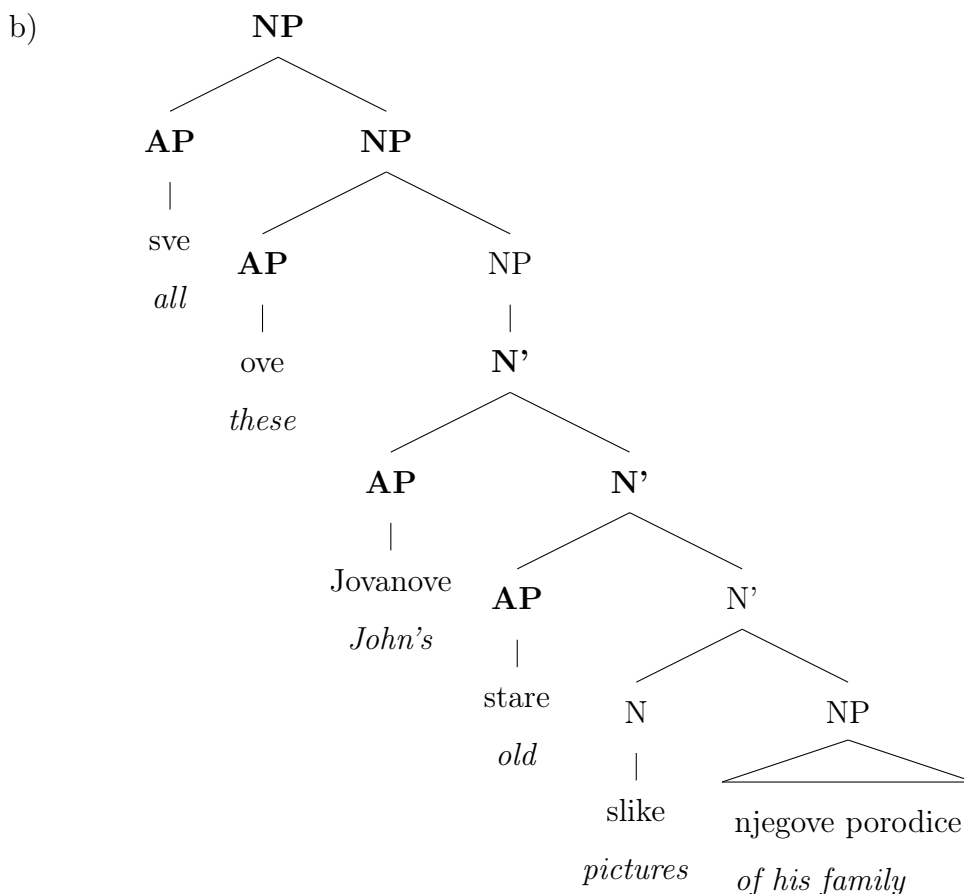
And here again, in a very similar fashion as with Fukui's proposal, we can see the carto-graphic side of Zlatić's analysis: articles received privileged status among determiners and, different D-like elements were assigned different positions within an NP (though their labels were identical, AP). Since the word order facts dictate the ordering of functional projections in cartographic layouts, Zlatić's proposal is reminiscent of a cartographic view of DP.

The proposals by Fukui and by Zlatić initiated the discussion on parametric variation of DP. Two opposing views emerged:

(1.17) **Universal DP-Hypothesis**

All languages have overtly or covertly realized DP, regardless of the presence or absence of overt articles.

(Progovac (1998), Leko (1999), Rappaport (2001), Bašić (2004), Cinque (2005), Pereltsvaig (2007b), among others)

```
                    DP
                   /  \
               SPEC    D'
                      /  \
                    D°    NP
                         /  \
                     SPEC    N'
                             |
                             N°
```
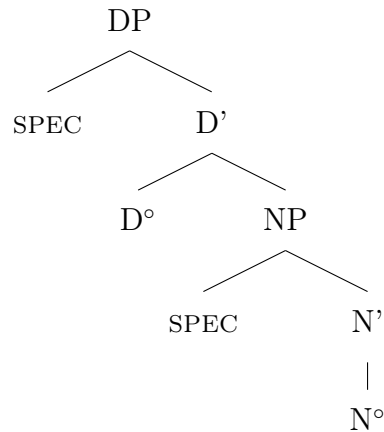
(1.18) **Parameterized DP-Hypothesis**

Languages without overt (definite) articles do not project DP.[14]

(Fukui (1988), Corver (1992), Zlatić (1997), Chierchia (1998), Baker (2003), Bošković (2005), Bruening (2009), Despić (2011), among others)

```
                NP
               /  \
           SPEC    N'
                   |
                   N°
```
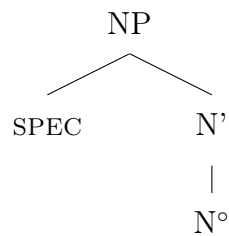
The Parametrized DP-Hypothesis[15] has been most fully developed and explored in the

---

[14]There is also a 'weaker' version of this claim: '[a] weaker version of the claim made in the paper would be that some languages without articles do not have DP.' (Bošković (2008b), p101, ft.1)

[15]Note that the Parametrized DP-Hypothesis has no consequences for the pre-X-bar Theory period, in which determiners were treated as a heterogenous group of atomic elements appearing in the specifier position (Det) of NP. The discussion that follows is thus relevant only after the DP has been introduced as a functional projection of an NP.

work of Bošković and his followers with the focus on Serbian (Stjepanović (1998), Bošković (2003), Trenkić (2004), Bošković (2005), Despić (2011), Despić (2013), Talić (2013), Stjepanović (2013), i.a.). The crucial assumption (adopted from Zlatić's work and slightly modified) is that the presence of DP correlates exclusively with the presence of a specific item - definite article. As Despić puts it: '[...] following Bošković, [...] whether or not a language has DP crucially depends on whether or not that language has definite articles' (Despić (2011), p12). The Parameterized DP-Hypothesis hence treats definite articles as privileged elements among the class of determiners. Therefore, there needs to be a sharp distinction between definite articles on the one hand and D-like elements (possessives, quantifiers and demonstratives) and indefinite articles on the other, given that all of these elements are uncontroversially taken to be instantiations of D in English for instance (at least in the original DP-Hypothesis). Such a proposal makes a number of predictions both regarding the language acquisition of a D category as well as syntactic structure involved. I will discuss both of them below.

From a language acquisition point of view, the Parameterized DP-Hypothesis suggests that when setting the DP-parameter, a child is faced with the set of alternatives and can navigate through them by essentially a single item: definite article. So for example, a child exposed to the linguistic input of Serbian, when encountering the class of determiners must detect that there are no definite articles and re-analyze the encountered determiners as something other than D. On the other hand, a child acquiring English for instance, should not go through the process of reanalysis since the definite article signals that determiners are Ds in the language. The basic idea is that the presence of a particular lexical item is enabling the projection of the whole category. Or, at least, this is how the DP-parameter has been widely presented/interpreted in the literature. However, there are some implications that, in fact, the cartographic approach to functional projections above NP is involved: 'I use the term T[raditional]N[oun]P[hrase] neutrally, without committing myself to functional structure that may be present above NP' (Bošković (2013)).

Following this kind of reasoning, one might expect to find lexical elements of privileged

status among other functional categories. For instance, in order for a child to learn that there is a CP projection in a language, he must encounter a particular complementizer or, to know that there is a DegP, he must encounter a particular comparative morpheme. To my knowledge, no such proposals have ever been made. In that respect, the privileged status that the definite articles has, as argued by the Parameterized DP-Hypothesis, is quite unique both among the class of determiners and among other functional elements and their corresponding categories.

Note further that the privileged status of definite articles can vary among languages. Bošković (2008b) claims that Greek definite articles 'may be ambiguous between real articles and Slavic-type adjectival endings.' (p102, ft.3) So, a child learning Greek must be able to somehow detect that despite the overt presence of definite articles, Greek, in fact, does not project DP. The argument that Bošković builds this claim on is that Greek definite articles can appear on multiple nominal elements (a so-called 'polydefinite construction' or Determiner Spreading). Therefore, it is not only the sole presence of the definite article in a language that signals the presence of DP projection but also its single occurrence within a nominal phrase. If this is indeed the case, then languages that exhibit 'double-definiteness' effect, such as Swedish, Norwegian, Faroese, North Frisian, i.a., should lack DP as well. Such a prediction is not only in sharp opposition with the nominal structure these languages have been standardly argued to have (Delsing (1993), Julien (2003), LaTerza (2007)) but also with Bošković's generalizations derived from the DP-parameter: the presence/absence of the DP relates to the broader syntactic behavior that the nominals in different languages exhibit. A number of generalizations observed for languages with and without articles are provided and, the above mentioned languages fall into the group of languages that have DP (see Bošković (2008b), Bošković (to appearb), Despić (2011), Bošković (to appeara)). On these grounds then, the proposal that the absence of a DP is directly related to the presence of definite articles with single occurrence among the nominal is rather peculiar. I am not aware of any other categorial projections that are learnable from the linguistic input that is this much

restricted: there is a specific lexical item that enables the whole categorial projection but in order to be able to do this, it must occur only once within the relevant phrase.

There is also a question of how cross-linguistic the DP-parameter is. It is related to the specific lexical element that English has but there are a number of languages that have different article systems. For instance, there are languages, such as North Frisian and Faroese, that have multiple lexical items corresponding to the English definite article (Delsing (1993), Julien (2003), Schwarz (2009)). The question to ask is if all of them signal the presence of a DP projection in a language or there is a privileged member among them. Some other languages, like for instance Futuna-Aniwa, have lexical items that correspond to both indefinite and definite articles in English (Dougherty (1983)). Therefore, children need to be sensitive to these differences in order to be able to set the DP-parameter. The parameter hence seems quite puzzling from a cross-linguistic perspective.

Furthermore, the absence of a DP projection entails, as already mentioned, that D-like elements cannot be of a D category but some other category. Zlatić (1997) and Bošković (2005) in fact propose that determiners in Serbian are adjectives.[16] The argument for such a proposal comes from some adjectival characteristics observed for these elements that are taken to spread to the whole class. These include their morphological characteristics, their ability to be used as predicates in copular constructions, their ability to stack, the relatively free word order in which they can appear and some distributional properties of pre-nominal possessives that are argued to be reminiscent of attributive adjectives. I will discuss each of these observations in detail in the next chapter. The implication that such a proposal makes is that the adjectival characteristics of determiners play a role in determining their category but only in languages that lack definite articles. In other words, determiners in languages that have definite articles might exhibit some adjectival characteristics but these should not be taken to signal that they are categorially adjectives.

---

[16]There are some exceptions to this. Some determiners are argued to have their own projection, generally labelled QP (Franks (1994), Bošković (2006a), Despić (2011)) while some other ones are argued to be nouns (Zlatić (1997)). However, most of the determiners are assumed to be syntactically adjectives or adjective-like elements (Despić (2013), Bošković (to appearb)).

As far as indefinite articles are concerned, Bošković (2009b) claims that 'a number of authors have argued, or at least developed systems which lead to the conclusion, that indefinite articles are not located in the DP projection.' (p54) He cites the work of Bowers (1987), Stowell (1989), Chomsky (1995) and his own work, Bošković (2007). The arguments include the differences in the distribution of the two articles in English: (a) the indefinite article can be the associate of *there* whereas this is not the case for the definite article (*there is a/*the man*), (b) the indefinite article cannot co-occur with quantifiers and determiners that do not exhibit specificity effects (Fiengo and Higginbotham (1981)) while the definite article can (**a/the many, *a/the three*), (c) the indefinite article exhibits the behavior of adjectives whereas the definite article does not (Bowers (1975)). But note that other D-like elements show different behavior with respect to the above mentioned distributional facts; i.e. they do not behave uniformly on a par with either definite or indefinite articles. In other words, definite articles do not exhibit a unique behavior among other determiners. For instance, some quantifiers can be used as associates of *there* (corresponding to the behavior of an indefinite article) while others cannot (corresponding to a definite article): *there are many books/*there is every book*. Also, definite and indefinite articles sometimes have the same distribution. For example, it has been observed that there is a split between determiners which license ellipsis in their scope and those which do not (Jackendoff (1977), Chomsky (1981)). And, definite and indefinite articles behave uniformly in this respect:

(1.19)   a) *****The*** / ***A*** / *Every* / *No* (*of them*) *jumped.*

　　b) *Few* / *Both* / *Some* / *Most* / *Many* / *Each* / *All* (*of them*) *jumped.*

Such observations hence cast doubt on the schism proposed to hold between definite articles on the one hand and all other determiners on the other in enabling DP projection. The distributional differences among determiners in general are many but there does not seem to be a clear difference between definite articles on the one hand and all other determiners on the other.[17]

---

[17]The distributional differences discussed concern only English determiners. But note that the distribution

Furthermore, the proposed division among determiners has no semantic anchoring either. Definite articles are in no way privileged among other determiners from a semantic point of view. While some semanticists for instance give a unifying (quantificational) treatment of the whole class of determiners (Barwise and Cooper (1981)), some other ones view both definite and indefinite articles as part of the paradigm, i.e., they are intimately linked: they are variables that either introduce (indefinite) or update (definite) a file card (Heim (2002)). The privileged status that the Parametrized DP-Hypothesis ascribes to definite articles hence seems to be semantically implausible.

Finally, the absence of the specific lexical item, i.e., definite article, entails that all the structure that the item might be responsible for licensing projection should be missing as well. So, for instance, in certain analysis, from the beginning of generative grammar, relative clauses (RC) were analyzed as complements of determiner (Smith (1964), Vergnaud (1974)):

(1.20) [$_{DP}$ *the man* [$_D$ ~~*the*~~ [$_{CP}$ *that I saw*]]]

They can likewise be complements of demonstratives:

(1.21) [$_{DP}$ *that man* [$_D$ ~~*that*~~ [$_{CP}$ *that I saw*]]]

The corresponding Serbian structures are respectively the following:

(1.22)   a) *čovek   kojeg   sam   video*
        man   which AUX seen
        'the man that I saw'   (SERBIAN)

    b) *taj   čovek   kojeg   sam   video*
        that man   which AUX seen
        'that man that I saw'

The implication that the Parametrized-DP Hypothesis makes is that Serbian RCs need to be analyzed in a completely different way if there is no D in this language. I will investigate

among different types of determiners vary cross-linguistically.

this question in §Chapter 4.

Hence, so far we have seen that the DP-parameter has no syntactic or semantic foundation: definite articles are not privileged items among the class of determiners based on any syntactic or semantic criteria. Therefore, the privileged status that they have in the Parameterized DP-Hypothesis is not well grounded. Furthermore, from the language acquisition point of view, which is based on parameter setting, it seems odd that the projection of the whole category (DP) relates to a single lexical item (definite article). It raises not only the question how children internalize such a parameter but also, why is it restricted to a particular category, namely, DP. A closely related issue comes from the cross linguistic differences as far as the article systems are concerned and how DP parameterization extends to them. These are, in my opinion, crucial issues that need to be addressed in connection to the DP-parameter so we can gain a deeper understanding of what is essentially being proposed. I am not aware of any discussion of this kind in the current literature.

The crucial question is what is the DP-parameter about: is it the case that the presence of a particular element is enabling the projection of the whole category (DP) or is it only enabling the presence of the projection of a very limited category (DefArtP). In other words, is the existing discussion on DP-parameter the result of pure mislabeling or not? If the DP-parameter is set in the cartographic structural model, then it needs to be understood accordingly: there is a projection, which I will refer to as **DefArtP** to avoid confusion, which is associated with a single lexical item: the definite article, and that projection is subject to parametrization. In other words, we are dealing with the identification of a particular projection with a specific lexical item rather than the identification of a particular category. Under this view, the DP-parameter belongs to a parametrization model in which a particular projection, associated with a particular lexical item, is subject to parametric variation. So, in the clausal domain, one could expect to see different projections for different complementizers; for instance, XP (for *that*-Comp), YP (for *if*-Comp), each of which is subject

to parametric variation. That is, each lexical item has its own projection and languages differ whether or not they have specific lexical items associated with specific projections. If this is how the Parameterized DP-Hypothesis is to be understood, then the question is what unifies all other D-like elements in both English and Serbian so they are respectively argued to be of a certain category: Ds and Adjs.[18] The definite article is presumably unique among the class of determiners while all the other members of the same class fall under the same projection. Categorially speaking, all lexical instantiations of D (definite articles and other D-like elements) are still taken to be determiners, but it is only the definite articles that have their own projection. To make this picture even more complex, proponents of the Parameterized DP-Hypothesis claim that actually 'the absence of definite articles does <u>not</u> entail in any way the complete absence of nominal functional projections.' (Despić (2011), pp12-13) Bošković (to appearb), for instance, argues for the existence of two functional projections in a nominal domain: QP and FP; similarly, Despić proposes QP and IntensifierP.[19] Such proposals are straightforward evidence that for Bošković and his followers, DP must be viewed as one among other functional projections in a nominal domain. This projection hosts definite articles and is labelled DP. Crucially though, this is not the DP Abney proposed. Therefore, the devised generalizations argued by Bošković amount to the parametric variation of the DP which hosts <u>only definite articles</u>; i.e., the generalizations are much less general than they appear to be. The Parametrized DP-Hypothesis thus seem to amount to **Parameterized DefArtP-Hypothesis**. The generalizations drawn from it hence need to be re-examined.

---

[18]I will discuss this issue in the next chapter.

[19]Zlatić has a more radical view in this respect. She claims that 'noun phrases in articleless Slavic languages lack functional projection, DP (or any functional projections in the noun phrase) [...].' (Zlatić (1998), p17)

1.4　Overview

We have seen so far that the following issues are at stake: (a) the syntactic and semantic view of determiners are radically different: syntactically, determiners are functional elements and they, according to some researchers, map to different projections whereas, semantically, they are not functional elements and they largely belong to one class, the class of quantifiers, and, (b) the question on the proposed parametric variation in the nominal domain seems to concern only one determiner: the definite article, and correspondingly, its own projection. The rest of the thesis scrutinizes the arguments that researchers use to argue for the parametric variation of DP functional projection in nominal domain. The null hypothesis is the following: if determiners are indeed a class of elements that are lexical instantiations of D, the adjectival status of some determiners (specifically, D-like elements) and generalizations based on parametric variation of one determiner (that is, the definite article) need to be re-examined. The focus is on Serbian since it is the language the Parameterized DP-Hypothesis is largely built on.

In particular, §Chapter 2 thoroughly investigates Serbian D-like elements, looking for an answer to the question whether they can be justifiably considered adjectives. The purpose of the chapter is to evaluate a consequence that the Parameterized DP-Hypothesis makes: if determiners are not Ds then they have to be reanalyzed as elements of some other category, presumably adjectives. I first provide a number of properties generally claimed to be distinctive of the lexical category of adjectives and test D-like elements on them. Second, I scrutinize the data offered in the literature used to argue for the adjectival status of D-like elements and show that they are disputable, often lacking relevant paradigms and abundant in lexical variety. The conclusions drawn on these data are therefore mere overgeneralizations. New data (both Serbian and cross-linguistic) are presented and discussed showing that D-like elements exhibit only some properties of adjectives but are still by and large instantiations of D. This is certainly a welcome result since no stipulations need to be made about the cross-linguistic categorial differences of D-like elements (adjectives vs. determiners) as

29

well as differences in nominal structure. I also investigate the arguments offered to show that Serbian D-like elements are adjuncts (NP-adjoined), while their category is left unspecified (Despić (2011), Despić (2013)). These arguments are built on Serbian binding data. I show that the proposed NP-adjunction theory makes wrong predictions as far as binding is concerned cross-sententially and in structures involving NP-complements. Furthermore, new data from Macedonian and Bulgarian are presented, which further undermine the NP-adjunction proposal since the two DP languages pattern together with Serbian rather than with English.

§Chapter 3 focuses on specific consequences that Bošković himself claims to follow based on the DP-lessness in a language. I look at what is taken to be the strongest arguments provided by the proponents of the Parameterized DP-Hypothesis: Left Branch Extraction (LBE) and Adjunct Extraction (AE). It is claimed that the differences in extractability from nominal domain amount to differences in nominal structure: languages that do not have DP projection may allow LBE and AE whereas languages with DP do not. However, the data on which these generalizations are built on are disputable, i.e., there are loopholes and disagreements. Missing paradigms, new cross-linguistic data and five controlled acceptability judgment studies (Serbian and Macedonian) are offered, providing new insights into the phenomena. It is shown that the Parameterized DP-Hypothesis fails on empirical grounds and an alternative analysis for LBE is provided.

§Chapter 4 examines a prediction that if the D category is absent, then all the structural consequences of its presence must be absent as well. In particular, I look at RC structures in Serbian. The absence of DP virtually eliminates three of the four classical analyses of RCs. I will use the term D-RC to refer to them since the crucial point in both is that there is a selectional dependency between a D and an RC (Smith (1964), Ross (1967), Vergnaud (1974), Kayne (1994), among others). If there is no D in Serbian, selectional dependencies between Ds and RCs are predicted not to be found in this language. I introduce additional data that suggest that the category is not missing in the language and adopt an analysis

that captures the observed dependencies: Complex Determiner Analysis, which assumes the dP-shell structure (Larson (1991), Larson (2004), Larson (in press)).

There are three main goals of this work: (a) to initiate discussion on what the proposed DP-parameter essentially is, (b) to re-examine the status of determiners and bring into focus relevant assumptions about the nature of DP projection and lexical elements associated with it, which have often been taken for granted in syntactic research and (c) to look closely at some syntactic implications that are associated with the DP projection cross-linguistically.

Chapter 2

Determiners in a DP-less Language

Under the Parametrized DP-Hypothesis as we have framed it, whether language L is a DP-language (i.e., a language that realizes the category D) or is DP-less can be determined (by the language learner or the linguist) from the presence/absence of the cardinal determiner, **the definite article**. Presence of the cardinal determiner enables or activates the category D in the sense of making it available as a category to which other elements may be assigned. Hence in DP languages, D typically contains not only the definite article, but also a set of non-cardinal determiners, including indefinite articles, demonstratives, quantifiers, etc. By contrast, absence of cardinal D disables or deactivates the D category making it unavailable for categorization of other elements. Hence in DP-less languages, items that might otherwise be realized as non-cardinal determiners must be realized in some other available category.

Advocates of the Parameterized DP-Hypothesis have gone from suggesting the category A (adjectives) as the natural repository for elements expressing non-cardinal determiner meanings in DP-less languages to claiming that these elements show adjectival behavior, leaving their category unspecified.[1] Thus they have proposed that demonstratives, quantifiers, etc. in a candidate DP-less language like Serbian, for example, are all grammatically adjectives

---

[1]Historically, grammarians, all the way back to Dionysius Thrax (ca.100BC), have treated determiners as adjectives. Such a view was not preserved in the works of early transformational grammarians; for them, determiners constituted a category of their own - Determiners.

(Zlatić (1997), Bošković (2003), Bošković (2005), i.a.) or, according to the most recent, modified proposal, Serbian determiners 'morphologically and syntactically [..] behave like adjectives' and this behavior is indicative of their syntactic position: they are NP-adjoined (Bošković (to appearb), p5). The latter proposal, as mentioned, does not specify the category of these elements (Despić (2009), Despić (2011), Despić (2013), Bošković (to appearb)).[2] This very strong claim generates a series of equally strong predictions with respect to the expected distributional behavior of these elements in Serbian and other DP-less languages. In his most recent work, Bošković however says that 'we would not necessarily expect that the items in question will exhibit the same behavior in all NP languages or rule out the possibility that in some DP languages some of the items under discussion could exhibit some of the properties of the S[erbo]C[roatian] items in question' (Bošković (to appearb), p5, ft.7). In other words, the main point of the discussion on adjectival nature of Serbian determiners for him 'is to demonstrate that the S[erbo]C[roatian] items in question behave differently from their English counterparts' (ibid.). Such a claim is thus very narrow in its scope since it only shows that there are differences between determiners in English and Serbian, leaving open the possibility that other DP- and DP-less languages might in fact go either way. If this is indeed the case then there is a set of questions that immediately arises: (a) what does the adjectival nature of determiners in some languages indicate and (b) how do we account for the differences within the group of DP and within the group of DP-less languages in this respect? If the differences in adjectival behavior of Serbian and English determiners is supposed to indicate the differences in their syntactic positions, which is what Bošković claims in his latest work based on Despić (2011) and Despić (2013): the former are adjuncts and the latter are D heads (such a treatment is necessary for the LBE account as proposed by Bošković), then the question is how are syntactic positions in DP-less languages with 'non-adjectival' determiners and DP-languages with 'adjectival' determiners accounted for?

---

[2] As already mentioned, there are some exceptions to this; Zlatić (1997) claims that some determiners are nouns while Franks (1994), Bošković (2006a), Despić (2011) argue that some determiners head their own projections.

In other words, what is the relevant relation between the adjectival nature of determiners and their syntactic position and how does it extend to languages other than English and Serbian? These are the questions that certainly call for explanation.

In this chapter I will examine the predictions regarding the adjectival nature of Serbian determiners (both regarding their claimed adjectival behavior and their syntactic position), i.e., whether they are indeed confirmed in Serbian. As I show, they are not. Claimed adjectival behavior and the syntactic position on the part of the relevant elements in Serbian are either not sustained by the evidence or simply contradicted. This crucial prediction of the Parameterized DP-Hypothesis therefore appears incorrect.

I am first going to examine general issues regarding the category of adjectives and how it relates to the determiners in Serbian and English, focusing on the latest claim that Serbian and English determiners behave differently (Section 2.1.): if Serbian determiners morphologically and syntactically behave like adjectives in every respect unlike English determiners then the prediction is that the former but not the latter should exhibit principal adjectival properties. In particular, I discuss syntactic environments in which only adjectives are claimed to be able to appear.

Second, I will scrutinize specific proposals made about Serbian determiners (Section 2.2). This work is intended to contribute to the existing discussion on these issues for Serbian and other DP- and DP-less languages (Bašić (2004), Pereltsvaig (2007b), Caruso (2011), Bailyn (2012), Pereltsvaig (2013), i.a.). I show that the claimed adjectival behavior of Serbian determiners is not empirically supported.

Lastly, I will examine Despić's argument from binding data that is provided to support the claim that Serbian determiners are adjective-like: they occupy the same syntactic position as ordinary adjectives, both are NP-adjuncts (Section 2.3). Such a theory is claimed to be consistent with the general proposal that Serbian determiners morphologically and syntactically behave like adjectives in every respect.[3] I present additional Serbian binding

---

[3]Note that in Despić (2013), only possessives and demonstratives are discussed with respect to NP-adjunction whereas in Despić (2009) and Despić (2011) possessives, demonstratives and quantifiers are in-

data and introduce some relevant Macedonian and Bulgarian binding data that challenge this proposal.

The conclusions I draw from the data discussed in this chapter is that Serbian determiners do not behave as described by the proponents of the Parameterized DP-Hypothesis. They do exhibit some adjective-like behavior but there are a number of characteristics associated with them that are not adjectival in any sense. Also, some of the properties are shown to have been misrepresented as adjective-like. Furthermore, English and Serbian determiners often pattern together in their behavior, contrary to the claim of the Parameterized DP-Hypothesis. In addition to that, Macedonian determiners are shown to almost perfectly match the behavior of their Serbian counterparts, which raises the question of the expected differences between DP- and DP-less languages and its relevance in determining the category of these elements among different types of languages. Finally, as far as the syntactic positioning of determiners in DP- and DP-less languages are concerned: the former are D heads and the latter are NP-adjuncts, the proposal based on the binding data is shown to face some challenges. Serbian binding data across sentences and from NP-complements and, some newly collected Macedonian and Bulgarian binding data are incorrectly predicted by the theory proposed by Despić to pattern in a way that is contrary to the fact. Therefore, the theory that argues that Serbian determiners are not Ds but adjectives, adjective-like or NP-adjuncts (whatever version of it one wants to adopt), systematically and consistently fails to track the behavior of these elements in the language. As such, its status as an alternative to the widely accepted and empirically defended view that determiners across world languages belong to a uniform category: DP, is questionable and call for further investigation.

---

cluded in the discussion.

2.1 On Some Basic Properties of Adjectives

The hypothesis that non-cardinal determiners, such as demonstratives, possessives, etc. in Serbian (and most likely in other DP-less languages) behave morphologically and syntactically like adjectives in every respect predicts that these elements should exhibit basic properties of adjectives as far as the syntactic environments in which they can appear are concerned. English determiners, as Ds, should crucially differ in this respect. Baker (2003) lists the following three properties regarding the syntactic environments of adjectives as common and unique to them across the world's languages.

First, adjectives 'can be direct attributive modifiers of nouns, but nouns and verbs cannot be' (ibid, p191):

(2.1) (taken from Baker (2003), p191, ex (1))

    a) <u>A</u>DJ: *a **smart** woman*

    b) <u>N</u>: **a **genius** woman*

    c) <u>V</u>: **a **shine** coin*

Second, 'adjectives can be the complements of degree heads like *so, as, too* and *how* in English, but neither nominal nor verbal projections can be' (ibid.):

(2.2) (taken from Baker (2003), p191, ex (2))

    a) <u>A</u>DJ: *Mary is too **smart** for her own good.*

    b) <u>N</u>: **Mary is too a **genius** / a too **genius** for her own good.*

    c) <u>V</u>: **If you polish it, the coin will too **shine** in the dark to miss.*

Third, 'adjectives can be resultative secondary predicates, unlike nouns and verbs' (ibid.):

(2.3) (taken from Baker (2003), p191, ex (3))

    a) <u>Adj</u>: *They beat the meat **flat**.*

    b) <u>N</u>: **They beat the metal a **sword**.*

    c) <u>V</u>: **They polished the coin **shine**.*

The three syntactic environments are claimed to uniquely apply to adjectives. If Serbian, but not English determiners, behave morphologically and syntactically like adjectives in every respect, the prediction is that they should be able to appear in the above discussed syntactic environments. I show below that this prediction is falsified. I further corroborate that Serbian and English determiners do not diverge in this respect. Since Serbian lacks resultative secondary predicates (Snyder (2001)), I will not discuss that environment. The following discussion is by all means not absolute. There could be languages whose determiners exhibit different behavior. I leave the wider cross-linguistic research on this topic as a future endeavor.

2.1.1 Attributive Modifiers

The first crucial property of adjectives is that they can be direct attributive modifiers of nouns, unlike nouns and verbs. It is in fact the most common way to distinguish adjectives as a category by descriptive grammars. Serbian ordinary adjectives (as well as nouns and verbs) conform to this generalization. Adjectives can be attributive modifiers whereas nouns and verbs cannot.

(2.4)   a) <u>Adj</u>:

    pametna *žena*
    smart   woman
    'a smart woman'   (Serbian)

b) <u>N</u>:

    ***genije** *žena*
     genius woman
    *'a genius woman'

c) <u>V</u>:

    ***šljašti** *novčić*
     shine coin
    *'a shine coin'

If the Parameterized DP-Hypothesis is correct, then Serbian determiners should pattern in their behavior with adjectives: they should be able to modify nouns directly, in the so-called attributive construction.[4]

(2.5) a) **ta**   *žena*
        that woman
        'that woman'   (SERBIAN)

      b) **svaka** *žena*
        each   woman
        'each woman'

In his *Lexical Categories* however, Baker points out to the fact that even though many authors claim that it is the basic nature of adjectives to be modifiers 'it is wrong to make

---

[4]We could take a look at this issue from a semantic point of view as well. Adjectives are standardly argued to be properties (Heim and Kratzer (1998)) but, there are also other views: Montague (1974), for instance, argues that adjectives are functions from properties to properties while Chierchia (1998) claims that adjectives refer to kinds. In other words, there is no consensus as to what adjectives really are semantically speaking. Bošković (2009a) argues that Serbian determiners have the modificational semantics; they are properties like attributive adjectives ($<e,t>$ type). But, he separates demonstratives from all other determiners: demonstratives are not properties but functions from properties to individuals ($<<e,t>, e>$). In other words, there is variation among Serbian determiners regarding their semantic type. This is by no means a standard view of determiners. As we have already seen in the previous chapter, in GQ theory for instance, determiners take properties as arguments and produce generalized quantifiers; and, generalized quantifiers take properties as arguments and produce truth values (Barwise and Cooper (1981)). From this segment of the discussion on semantic type of adjectives and determiners, one can see that it is a convoluted issue and a subject of a continuing debate. I will not attempt to settle it here but simply point out to its complexity.

the ability to modify nouns the defining or characteristic property of the category adjective [...] all one needs to say about adjectives is that they are not inherently predicative (like verbs) or inherently referential (like nouns). That they make good modifiers can be derived as a theorem from this.' (Baker (2003), pp194&16)

There are two arguments in favor of such a view. First, adjectives are not the only elements that can be attributive modifiers. Nouns and verbs can modify nouns, though in a less direct way: as RCs (*a woman who sleeps*), as PPs (*a woman of wealth*), or as compounds (*a doghouse*). And second, it is not uncommon that some adjectives, in English and cross-linguistically, cannot be used as attributive modifiers, but only as predicates:[5]

(2.6) (taken from Baker (2003), p194, ex (7))

    a) *The dog is **asleep**. / *The **asleep** dog*

    b) *Mary is **ready**. / #The **ready** woman*

    c) *John is **responsible**.* (e.g. for losing the report) / ≠ *The **responsible** man*

These two points thus clearly suggest that the property of being an attributive modifier is not in fact unique to adjectives. The property actually encompasses a syntactic and a semantic issue. The syntactic issue concerns the syntactic environment in which adjectives can appear and the semantic issue concerns the nature of attributive modification. As we have seen above, Serbian determiners can appear in the relevant syntactic environment (2.5), but so can English determiners. Furthermore, we have seen that some other elements, such as nouns can appear in this position while some adjectives cannot. Hence, the data provided to determine whether Serbian determiners show the adjectival behavior in this respect are inconclusive. However, the data do show that there is no difference between Serbian and English determiners in this respect. Such a finding contradicts the prediction of the Parameterized DP-Hypothesis that determiners in the two languages exhibit different behavior.

---

[5]I will address the predicative use of adjectives and how it relates to determiners in section 2.2.2. Copular Construction below.

2.1.2 Complements of Degree Heads

The second principal property of adjectives that Baker discusses regarding their syntactic environments is that adjectives can be complements of degree heads, as shown in (2.2a) above. Serbian adjectives conform to this:

(2.7) *toliko / tako / previše* **pametan**
     so   / as   / too   smart
     'so / as / too smart'   (SERBIAN)

If Serbian determiners syntactically behave like adjectives, they should be able to occur as complements of degree heads. This is contrary to the fact. Compare the attributive adjective in (2.7) with the determiners below: a demonstrative (2.8a) and a quantifier (2.8b). Both the demonstrative and the quantifier are illicit as complements of degree heads.

(2.8)   a) *toliko / tako / previše* **taj**
           so   / as   / too   that
        *'so / as / too that'   (SERBIAN)

        b) *toliko / tako / previše* **svaki**
           so   / as   / too   each
        *'so / as / too each'

And the same is true for English determiners: they cannot be used as complements to degree heads:

(2.9)   a) *so / as / too that*

        b) *so / as / too each*

There is, however, an exception: the determiner *mnogo* 'many' in Serbian and its English counterpart can appear as a complement to some degree heads:

(2.10) *toliko / tako* **mnogo**
      so   / as   many
      'so / as many'   (SERBIAN)

(2.11) *so/ too many*

We will see below that in fact some of the determiners, cross-linguistically, have an adjectival character to them. The crucial question is whether the adjectival status that is true in a certain range of determiners can spread to the entire class. I will come back to this pivotal question at the end of the chapter.

Hence, to the exclusion of the determiner *mnogo* 'many', we can conclude that the Serbian determiners do not exhibit one of the principal properties of adjectives: they cannot be complements of degree heads just like English determiners. Such a behavior suggests that Serbian determiners do not syntactically behave like adjectives and that they do not differ from English determiners in this respect.

To sum up, the two basic properties of adjectives regarding the syntactic environments in which only they can appear, show that while Serbian adjectives exhibit them, determiners largely do not. Such a finding strongly suggests that determiners in Serbian do not syntactically behave like adjectives in every respect. Furthermore, the data also show that Serbian and English determiners do not diverge in any relevant respect.

Having discussed the basic properties of adjectives (syntactic environments) and how they extend to determiners, I now turn to specific proposals made about Serbian determiners, which are used by the proponents of the Parameterized DP-Hypothesis to support the hypothesis that determiners in Serbian (and DP-less languages in more general terms) are adjectives or that they morphologically and syntactically behave like adjectives.

2.2   On Some Adjectival Properties of Determiners

Beside the prediction of the Parameterized DP-Hypothesis discussed in the previous section (Serbian determiners should exhibit basic properties of adjectives as far as their syntactic environments are concerned if they indeed syntactically behave like adjectives), we might

also reasonably expect to see significant differences in the behavior of these items in a DP-less language like Serbian vs. DP languages. That is, the allocation of indefinite articles, demonstratives, quantifiers, etc. to category A (or, whatever other category but not D) vs. D, should have observable effects that distinguish it from the latter case. In this section, I will present arguments provided by the proponents of the Parameterized DP-Hypothesis to support their claim that determiners in Serbian indeed behave like adjectives, and not Ds. These include morphological characteristics of determiners, their ability to be used as predicates in copular constructions, their ability to stack, the relatively free word order in which they can appear and the ban on modification of pre-nominal possessives. These arguments have already been questioned in the literature, especially for Russian counterparts of Serbian determiners (Bašić (2004), Pereltsvaig (2007b), Ivšić (2008), Caruso (2011), Bailyn (2012), Pereltsvaig (2013), Stanković (2013), i.a.). The discussion to follow contributes to the existing debate on this topic by introducing some new Serbian data but also data from other languages, such as English and Macedonian. I examine each of these arguments questioning how they can or cannot be taken to support the adjectival nature of determiners in Serbian and then assess how these characteristics extend to determiners in DP-languages, mainly focusing on English and Macedonian though other DP-languages are discussed as well. The outcome of this assessment is twofold: (a) English and Serbian determiners do not diverge in their behavior as argued by the proponents of the Parameterized DP-Hypothesis and (b) Macedonian and Serbian determiners almost perfectly match in their behavior. The first outcome raises the question of the relevance of the argument that English and Serbian determiners show different behavior and how it indicates that the former but not the latter are Ds. The second outcome relates to the question of the expected differences in determiners' characteristics of DP- and DP-less languages and how they are associated with the proposed divergent categories or syntactic positions. Although Bošković does not exclude the possibility that some determiners in DP-languages can exhibit some of the properties of Serbian determiners he claims are adjectival in nature, it is rather puzzling to observe

42

that Macedonian determiners <u>almost exactly</u> match the behavior of Serbian determiners in relevant respects.

2.2.1 Morphological Characteristics

Two morphological arguments are provided to defend the view that Serbian determiners are adjectives or adjective-like elements (Zlatić (1997), Bošković (2005)). Note that in Zlatić (1997) and earlier works of Bošković and his followers (Stjepanović (1998), Bošković (2003), Trenkić (2004), Bošković (2005)), it is claimed that Serbian determiners are adjectives, APs. In the most recent research on this matter, Bošković (to appearb) and Despić (2013) claim that Serbian determiners morphologically and syntactically behave like adjectives, i.e., they are adjective-like elements. The category that the determiners belong to is however not discussed in the current proposal. In this section I show that the morphological characteristics claimed to be indicative of the adjectival nature of determiners (either suggesting that they are adjectives or adjective-like elements) are misleading. I will discuss two morphological arguments in turn below. After that I will turn to a discussion on the uniformity of morphological characteristics among different Serbian determiners and how they relate to their homogeneous categorial status/behavior.

2.2.1.1 Agreement

Zlatić (1997) takes the empirical observation that Serbian determiners (or, D-like elements, as they are usually referred to in the relevant works)[6] agree in number, gender and case with the head noun, as ordinary adjectives, to be indicative of their category.

(2.12) (taken from Zlatić (1997), Ch3, p26, ex (36))

*jedn**a***	*star**a***	*knjig**a***
one.F.SG.NOM	old.F.SG.NOM	book.F.SG.NOM

'an old book' (SERBIAN)

---

[6]I will use the two terms: *determiners* and *D-like elements* interchangeably.

Such an agreement pattern is observed for D-like elements of other DP-less languages. Below are illustrations from Czech, Polish and Russian:

(2.13) (taken from Zlatić (1998), p5, ex (9))

    a) *ta*   *pekna*   *devčata*
        this.F.PL.NOM   beautiful.F.PL.NOM   girl.F.PL.NOM
        'these beautiful girls'   (CZECH)

    b) *ta*   *mila*   *dziewczyna*
        this.F.SG.NOM   nice.F.SG.NOM   girl.F.SG.NOM
        'this nice girl'   (POLISH)

    c) *eti*   *milye*   *devuški*
        this.F.PL.NOM   nice.F.PL.NOM   girl.F.PL.NOM
        'these nice girls'   (RUSSIAN)

However, determiners in some DP-languages exhibit the same behavior as well. I will take a look at Macedonian, Spanish and Brazilian Portuguese respectively.

First, all D-like elements discussed with respect to the agreement facts in Serbian (possessives[7], quantifiers and demonstratives) agree in gender and number with the head noun in Macedonian.[8] [9]

(2.14)   a) *taa*   *nekoja*   *mlada*   *devojka*
           that.F.SG   some.F.SG   young.F.SG   girl.F.SG
           'that some young girl'   (MACEDONIAN)

        b) *tie*   *nekoi*   *mladi*   *dečkovci*
           that.M.PL   some.M.PL   young.M.PL   boy.M.PL
           'these some young boys'

---

[7]Macedonian infrequently uses possessive adjectives. A preposition followed by a noun is used instead. However, when it does use possessive adjectives, they show adjectival agreement with a noun following them:

  i) *mojata kniga*
     my.F.SG book.F.SG
     'my book'   (MACEDONIAN)

[8]Macedonian lacks overt case marking.
[9]All Macedonian data are from Ilina Stojanovska, p.c. unless otherwise indicated.

c) *to**a*   *neko**e*   *mlad**o*   *det**e***
   that.N.SG some.N.SG young.N.SG child.N.SG
   'that some young child'

The data above do not necessarily undermine the Parametrized DP-Hypothesis since the Hypothesis does not exclude the possibility 'that in some DP languages some of the items under discussion could exhibit some of the properties of the SC items in question' (Bošković (to appearb), p5, ft.7). It is still puzzling though that English and Macedonian determiners differ in this respect if one takes the agreement morphology observed to be indicative of their adjectival status or adjective-like properties.

Importantly though, the agreement phenomenon that Macedonian D-like elements exhibit is also detected on definite articles. Note that Bošković's claim quoted above does not say anything about definite articles. The items that he discusses in Serbian are determiners with the exclusion of definite articles. Definite articles in Macedonian agree in gender and number with the nouns. The concordial pattern of definite articles does not differ from the pattern of ordinary adjectives and D-like elements (cf. (2.14) above).

(2.15) a) *devojka**ta*   / *devojk**ite***
        girl-the.F.SG / girl-the.F.PL
        'the girl / the girls'   (MACEDONIAN)

     b) *dečko**to*   / *dečkovc**ite***
       boy-the.M.SG / boy-the.M.PL
       'the boy / the boys'

     c) *dete**to*   / *deca**ta***
       child-the.N.SG / child-the.N.PL
       'the child / the children'

Macedonian is by no means the only language whose definite articles agree in number and gender with the nouns they appear with. Spanish[10] and Brazilian Portuguese[11] have

---

[10]All Spanish data are from Susana Huidobro, p.c. unless otherwise indicated.

[11]All Brazilian Portuguese data are from Carolina Petersen, p.c. unless otherwise indicated.

the same phenomenon: definite articles and adjectives agree in gender and number with the head noun and the agreement pattern is the same.

(2.16) a) *la*   *chica*   *guapa*   / *las*   *chicas*   *guapas*
         the.F.SG girl.F.SG beautiful.F.SG / the.F.PL girl.F.PL beautiful.F.PL
         'the beautiful girl / the beautiful girls'

      b) *los*   *chicos*   *guapos*
         the.M.PL man.M.PL beautiful.M.PL
         'the handsome men'   (SPANISH)[12]

(2.17) a) *a*   *menina* *nova*   / *as*   *meninas* *novas*
         the.F.SG girl.F.SG young.F.SG / the.F.PL girl.F.PL young.F.PL
         'the young girl / the young girls'

      b) *o*   *menino* *novo*   / *os*   *meninos* *novos*
         the.M.SG boy.M.SG young.M.SG / the.M.PL boy.M.PL young.M.PL
         'the young boy / the young boys'

                                       (BRAZILIAN PORTUGUESE)

The cross-linguistic data presented above thus suggest that the adjectival concord that an element exhibits does not necessarily mean that the element is an adjective or adjective-like in the relevant respect (the logic executed when discussing Serbian D-like elements). If it were the case, then definite articles in Macedonian, Spanish and Brazilian Portuguese would legitimately be considered adjectives or adjective-like elements as well. So we are faced with a contradictory situation: the adjectival concord of the Serbian D-like elements is used to argue that these elements are adjectives or adjective-like elements but the same

---

[12]The only exception is masculine singular where the definite article is *el* and the adjectival agreement marker is *-o*, as in:

  i) <u>*el*</u> *chico guap<u>o</u>*
     the.M.SG man beautiful.M.SG
     'the handsome man'   (SPANISH)

My Spanish consultant informs me that the accusative form of the third person neuter and masculine personal pronoun is *lo* 'it/him'. So if the masculine definite article were to have the same form as the adjectival agreeing marker, it would be *lo*. In order to distinguish between the accusative masculine and neuter personal pronouns and the masculine definite article, the latter surfaces in the form of *el*.

adjectival concord of the Macedonian, Spanish and Brazilian Portuguese definite articles (and Macedonian D-like elements) should not be taken as an argument that these elements are adjectives or adjective-like. Such a fallacy, in my opinion, indicates that the adjectival concord does not provide sufficient evidence that the elements exhibiting it are necessarily related to adjectives.

2.2.1.2 Partial Case Paradigm

The second morphological argument that Zlatić (1997) provides and Bošković (2005) adopts is that Serbian D-like elements have a partial case paradigm of adjectives. The descriptive generalization is the following: nouns, adjectives and D-like elements are morphologically marked for case; adjectives and D-like elements sometimes take the case marking different from the one taken by a noun. Bošković illustrates the phenomenon with the following two examples:

(2.18) (taken from Bošković (2005), p6, ex (12))

a) *nek**im***   *mlad**im***   *djevojk**ama***
   some.F.PL.INST young.F.PL.INST girl.F.PL.INST

(SERBIAN)

b) *nek**ih***   *mlad**ih***   *djevojak**a***
   some.F.PL.GEN young.F.PL.GEN girl.F.PL.GEN
   'some young girls'

In (2.18a) the D-like element *nekim* 'some' and the adjective *mladim* 'young' take the exact same case marker for instrumental (-*im*) whereas the noun takes a different one (-*ama*). Likewise in (2.18b), the D-like element and the adjective take the genitive case marker (-*ih*) while the noun takes (-*a*).

This paradigm is, as correctly pointed out by Zlatić and Bošković, <u>partial</u>, i.e., it is only sometimes that case markers of adjectives and D-like elements differ from the noun case markers. Below I present three noun declension types, one for each gender, to illustrate the

partial case match phenomenon. The case markers of nouns that are different from the case markers of adjectives and D-like elements are underlined. Pereltsvaig (2007b) shows that Russian demonstratives and possessives also show an adjectival case paradigm that is only partial.

(2.19) Serbian Case Markers in Different Declension Classes of Nouns

		masculine (∅-ending)	netuer *o/e*	feminine *a*
		'this big window'	'this big village'	'this big soul'
SG	NOM	taj velik prozor	to veliko selo	ta velika duša
	GEN	t**og** velik**og** prozor<u>a</u>	t**og** velik**og** sel<u>a</u>	te velike duše
	DAT	t**om** velik**om** prozor<u>u</u>	t**om** velik**om** sel<u>u</u>	t**oj** velik**oj** duš<u>i</u>
	ACC	taj velik prozor	to veliko selo	tu veliku dušu
	VOC	t**i** velik**i** prozor<u>e</u>	to veliko selo	t**a** velik**a** duš<u>o</u>
	INST	t**im** velik**im** prozor<u>om</u>	t**im** velik**im** sel<u>om</u>	tom velikom dušom
	LOC	t**om** velik**om** prozor<u>u</u>	t**om** velik**om** sel<u>u</u>	t**oj** velik**oj** duš<u>i</u>
PL	NOM	ti veliki prozori	ta velika sela	te velike duše
	GEN	t**ih** velik**ih** prozor<u>a</u>	t**ih** velik**ih** sel<u>a</u>	t**ih** velik**ih** duš<u>a</u>
	DAT	tim velikim prozorima	tim velikim selima	t**im** velik**im** duš<u>ama</u>
	ACC	te velike prozore	ta velika sela	te velike duše
	VOC	ti veliki prozori	ta velika sela	te velike duše
	INST	tim velikim prozorima	tim velikim selima	t**im** velik**im** duš<u>ama</u>
	LOC	tim velikim prozorima	tim velikim selima	t**im** velik**im** duš<u>ama</u>

The very fact that the case marker match paradigm of an adjective and a D-like element is partial cast doubt on its relevance in determining the categorial status of D-like elements or attributing them adjectival properties. We still somehow have to explain the instances in which the adjective, D-like element and noun all get the same case marker; i.e., how do

these data fit into a diagnostic criterion for the categorial status of D-like elements or their adjectival properties? The partial case paradigm is thus inconclusive in this respect.

The partial case paradigm is also found in Polish (Barbara Tomaszewicz, p.c.). However, in Polish, it is possible to find instances in which a case marker on a D-like element matches the case marker of a noun but differs from the one on the adjective, shown in (2.20) below. Polish neuter singular nominative/accusative shows this:

(2.20) *to*   *wielkie*   *dziecko*
        this.NOM/ACC   big.NOM/ACC   boy.NOM/ACC
        'this big boy'   (POLISH)

Furthermore, there are also instances in which a D-like element has a case marker different from the one taken by an adjective and a noun, as shown in (2.21).

(2.21) *to*   *wielkie*   *serce*
        this.NOM/ACC   big.NOM/ACC   heart.NOM/ACC
        'this big heart'   (POLISH)

These observations present challenges to the partial case paradigm argument, which associates adjective-like properties with determiners given the fact that they share case-markers with ordinary adjectives. This is certainly not always the case.

Another relevant observation in this respect is the case paradigm of definite articles found in Greek. Their case paradigm, shown in (2.22) below, very much resembles the one of the Serbian D-like elements we have seen above.[13]

---

[13]All Greek data are from E. Phoevos Panagiotidis and Theo Babasidis, p.c. unless otherwise indicated.

(2.22) GREEK CASE MARKERS

		masculine	netuer	feminine
		'the handsome man'	'the beautiful child'	'the beautiful woman'
SG	NOM	o oreos andras	t**o** ore**o** pedh<u>i</u>	i orea yineka
	GEN/DAT	t**u** ore**u** andr<u>a</u>	tu oreu pedhiu	tis oreas yinekas
	ACC	ton oreo andra	t**o** ore**o** pedh<u>i</u>	tin orea yineka
PL	NOM	**i** ore**i** andr<u>es</u>	ta orea pedhia	i orees yinekes
	GEN/DAT	ton oreon andron	ton oreon pedhion	ton oreon yinekon
	ACC	to**us** ore**us** andr<u>es</u>	ta orea pedhia	tis orees yinekes

Greek definite articles exhibit partial case paradigm[14]; so, on a par with Serbian D-like elements, they might be argued to be adjective-like elements. Bošković himself actually briefly discusses Greek definite articles in some of his footnotes and says that '[they] may be ambiguous between real articles and Slavic-type adjectival endings' (Bošković (2008b), p102, ft.3). He cites the work of Mathieu and Sitaridou (2002) who argue that these elements in Greek are actually agreement markers rather than true definite articles since they can appear on multiple nominal elements (a so-called 'polydefinite construction' or Determiner Spreading). However, it has been argued (Panagiotidis and Marinis (2011) and works cited in the paper) that the polydefinite constructions are 'not semantically identical to adjectival modification with a single definite article. Adjectival modification within a monadic DP may have either a restrictive or a non-restrictive interpretation [...] on the other hand D[eterminer]S[preading] often received only a restrictive reading' (ibid., p8). The differences in interpretation might point out to the differences in the status that the elements in question have. The case paradigm provided above is for DPs in which definiteness is marked once;

---

[14]As pointed out by E. Phoevos Panagiotidis, p.c., there are number of factors that influence the morphological case marker on definite articles, adjectives and nouns, such as, syncretism, noun class, gender, etc. The same is true of Serbian case paradigm discussed above.

hence, if one takes the stand that Greek definite articles in such DPs are 'true' articles (Lekakou and Szendrói (2008)), then their adjectival character shown in the case paradigm above raises a question about their adjectival nature. The morphological characteristic of partial case paradigm hence does not seem to have the same implications across languages. In Serbian, it is argued to indicate that D-like elements are APs or XPs, where X cannot be D but, in Greek, no such indications should be related to the adjectival behavior that the definite articles exhibit; if they were, the crucial difference between determiners in DP-languages (Ds) and DP-less languages (APs or XPs) would be lost.

2.2.1.3 Categorial Uniformity

The last point related to the discussion on the morphological characteristics of Serbian D-like elements and adjectives is the difference in the generality of the claims made in Zlatić (1997) on the one hand and Bošković (2005) and his followers on the other. In particular, Bošković's view is inclusive, i.e. Serbian D-like elements are adjectives/adjective-like elements with very few exceptions (some quantifiers head their own projections, QP). Zlatić's claim about the behavior of D-like elements in Serbian is a bit less radical. She notes that some D-like elements show nominal behavior besides adjectival. Some demonstratives for instance have 'dual' nature. She claim that 'with respect to their behavior inside the NP, they are adjectives; with respect to their behavior in relation to other constituents in the sentence, they are (pro)nouns' (Zlatić (1997), p43, Ch.3). The author argues on morphological grounds that masculine and neuter gender demonstratives exhibit different behavior if they are used as adjectives or nouns. In certain oblique cases, a demonstrative has a vowel ending (-a), as illustrated in (2.23a). The ending is taken to indicate that the demonstrative is a noun. On the other hand, if the demonstrative is followed by a noun, then it does not, and in fact, must not have the vowel ending, as shown in (2.23b). In other words, the demonstrative is used as an adjective in the latter but as a noun in the former case. Zlatić cites the examples from Mrazović and Vukadinović (1990) p309, to illustrate this point:

(2.23) (taken from Zlatić (1997), p34, Ch3, ex (42))

a) <u>*Ovim**a***</u>   *nikada   nisam   verovala.*
   these.DAT never   not.AUX trusted
   'I have never trusted these (people).'   (SERBIAN)

b) <u>*Ovim**(*a)***</u> *ljudima   nikada nisam   verovala.*
   these.DAT people.DAT   never   not.AUX   trusted
   'I have never trusted these people.'

The author recognizes though that it is possible to omit the vowel ending in (2.23a). In that case, she claims, we are dealing with an elliptical construction whose head noun is omitted: *ovim ~~ljudima~~* 'these ones'.

She further shows that a universal quantifier *svi* 'all' exhibits the same (dual) behavior in the same environment (in some oblique cases). When the quantifier is used as a noun, it must have a vowel ending (*-a*) and when it is used as an adjective, it must not. Zlatić illustrates only the nominal use of the quantifier, cited in (2.24); the adjectival use of the quantifier is illustrated with my own example (2.25).

(2.24) (taken from Zlatić (1997), p45, Ch3, ex (52b))

*Razgovarala   sam   sa   <u>svim**a**</u>.*
talked   AUX   with all.INST
'I talked to everyone.'   (SERBIAN)

(2.25) *Razgovarala   sam   sa   <u>svim**(*a)**</u> profesorima.*
       talked   AUX   with all.INST professors.INST
       'I talked to all professors.'

These observations strongly suggest that the proposed adjectival behavior of Serbian D-like elements certainly does not spread to the entire class. Bošković is actually unclear on what D-like elements he treats as adjectives/adjective-like. When discussing the adjectival case concord for instance, he talks about 'lexical items corresponding to *that, some,*

etc., as well as possessives' (Bošković (2005), p6) whereas, in his conclusion on the discussion about the adjectival status of D-like elements, he says that 'all "D"s are As in S[erbo]C[roatian]' (ibid, p7). The data discussed by Zlatić certainly cast doubt on the 'pure' adjectival status/nature of <u>all</u> D-like elements in Serbian.

To sum up, the arguments based on morphological characteristics of Serbian D-like elements are feeble. The two agreement phenomena: (a) agreement with a noun in gender, number and sometimes case and, (b) partial case paradigm are respectively shown to be inconsistent among DP-less and DP-languages as far as their behavioral indications are concerned and, inconclusive. Hence, their relevance in determining the categorial status of D-like elements or suggesting that they are adjective(-like) is dubious. Furthermore, we have seen that some Serbian D-like elements behave differently from the rest of the class. These elements are hence treated as either having their own projection, QP or, as being nouns, NP. Such claims are, however, only superficially accommodating the data but are certainly not providing any explanation as to why such differences exist in the first place.

2.2.2   Copular Construction

Another argument supporting the claim that Serbian D-like elements are not instantiations of D is the observation that they can occur in a typical adjectival position: a predicate position in a copular construction. I will present the argument by examining the behavior of different D-like elements in the copular construction.

2.2.2.1   Possessives

I will start with a possessive since Bošković uses it to illustrate the point:

(2.26) (taken from Bošković (2008b), p106, ex (27))

> Ova   knjiga je   <u>moja.</u>
> this book   AUX   my
> 'This book is mine.'   (SERBIAN)

Serbian pronominal possessives, unlike most English pronominal possessives, are syncretic in their form when used as possessive pronouns and possessive adjectives, as shown in (2.26) and (2.27) respectively.[15] The two possessive elements are morphologically the same.

(2.27) <u>Moja</u> knjiga je   na   stolu.
        my   book   AUX   on   table
        'My book is on the table.'   (SERBIAN)

English, on the other hand, sometimes makes a morphological distinction between possessive adjectives and corresponding possessive pronouns; i.e., *my, your, our* are morphologically distinct from *mine, yours, ours*. So the English counterpart to the Serbian copular construction example above shows that a possessive element that can appear in this structure is a possessive pronoun, (2.28b); a possessive adjective yields ungrammaticality, (2.28a). It is the morphological distinction between the two possessive elements that clearly indicates this.[16]

(2.28)   a) *_This book is <u>my</u>._

          b) _This book is <u>mine</u>._

But, the syncretism of the kind observed for Serbian possessives exists in English as well. The third person masculine and neuter possessive pronouns and possessive adjectives are syncretic.

---

[15]Based on the corresponding English examples, I am assuming that a possessive pronoun rather than a possessive adjective is used in copular constructions that involve possession. But, thorough cross-linguistic investigation is necessary to settle the issue.

[16]Pereltsvaig (2007b) suggests that the difference between *my* and *mine* might signal the pronoun's status as a clitic and a free pronoun. (p76)

(2.29)   a) *This book is <u>his</u>.*

         b) *<u>His</u> book is on the table.*

Since the two possessive elements are morphologically indistinguishable, one could argue on a par with the Serbian data that the element used in a copular construction (2.29a) is an adjective(-like element). To my knowledge, no such proposal has ever been put forth. It is simply observed that morphological forms of English possessive adjectives and possessive pronouns are sometimes syncretic.

Syncretism of the two possessive elements is detected in other languages as well. Macedonian is one such language. Here again, the possessive element used in a copular structure (2.30) does not differ in its form from the element used as a modifier of a noun (2.31).[17]

(2.30) *Ovaa   kniga   e   <u>moja.</u>*
        this   book   AUX   my
        'This book is mine.'   (MACEDONIAN)

(2.31) *<u>Moja</u>   kniga   e   na   masata.*
        my   book   AUX   on   table
        'My book is on the table.'

Note further that nominal English possessives can appear in copular constructions, as shown in (2.32); that is, they behave on a par with their Serbian counterparts, shown in (2.33).

(2.32)   a) *<u>John's</u> book is on the table.*

         b) *This book is <u>John's</u>.*

(2.33)   a) *<u>Jovanova</u>   knjiga   je   na   stolu.*
             Jovan.POSS book   AUX   on   table
             'John's book is on the table.'   (SERBIAN)

---

[17]Stanković (2013) shows that Macedonian allows possessives to occur in a copular construction.

b) *Ova knjiga je <u>Jovanova</u>.*
   this   book   AUX   Jovan.POSS
   'This book is John's.'

If the observation that Serbian possessives can appear in a copular structure can be taken as an argument that possessives are adjectives or adjective-like elements in this language, then the same line of reasoning should be able to extend to other languages; Macedonian and some English possessives could be claimed to be adjective-related.[18] Note that this is certainly an unwelcome result for the proponents of the Parameterized DP-Hypothesis especially regarding English possessives. Serbian and English possessives are claimed to exhibit different behavior, which is then taken to indicate that the former cannot be Ds. English possessives however do seem to share some adjectival properties with their Serbian counterparts: some pronominal possessives as well as nominal possessives can be used in copular construction, a typical adjectival position. Macedonian possessives, on the other hand, might somehow be accounted for given that Bošković leaves open the possibility that some determiners in DP-languages could exhibit some adjectival properties observed for Serbian determiners. We will see later that in fact Macedonian determiners in many relevant respects behave like Serbian determiners, raising a question to what extent the adjectival properties indicate the nature or the syntactic position of the elements that have them.

Given the issue of syncretism between possessive adjectives and possessive pronouns in Serbian, the argument for the adjectival status of possessives appearing in copular constructions is inconclusive. The possessive element that appears in these structures might as well be a possessive pronoun, syncretic in its form to a possessive adjective. Furthermore, the

---

[18]Pereltsvaig (2007b) in her discussion on Russian possessives and their adjectival treatment proposed by Bošković, makes the following remark: 'if examples [illustrating the use of possessives in copular structures] are interpreted as suggesting that the Russian pronominal possessors are adjectives, it must mean that the English items such as *mine* are adjectives as well, but *mine* cannot modify a noun [...]' (p76) In other words, she takes the categorial status of possessive elements in copular structures to be cross-linguistically the same. Hence, if possessive elements in one language are claimed to be adjectives in copular construction, then possessive elements in all languages should be adjectives in the same construction.

uniform behavior of English and Serbian nominal possessives further weakens the argument that there is a difference in behavior of D-like elements in these languages, based on the copular construction data.

Apart from possessive adjectives, for which Bošković provides an example, he does not discuss any other D-like elements. He however claims that 'the elements in question can occur in typical adjectival positions in S[erbo]-C[roatian]' where the *elements in question* are defined as 'lexical items corresponding to *that*, *some*, etc.' (Bošković (2005), p6). I will thus discuss demonstratives and quantifiers respectively.

2.2.2.2 Demonstratives

Serbian demonstratives can appear in copular construction but crucially, this is possible only if NP-ellipsis is involved. I am essentially following Pereltsvaig (2007b) and her proposal made for the corresponding Russian constructions (pp76-77). She claims that in fact both possessives and demonstratives in Russian copular constructions occur with a phonologically null noun. The claim is based on the agreement facts involving the polite *Vy* 'You' and the long and short form adjectives. Her proposal is an extension of the analysis developed in Babby (1975) and Bailyn (1994). The evidence provided for Russian structures however does not exist in Serbian. Nevertheless, NP-ellipsis seems to be involved in Serbian copular constructions with demonstratives as well.[19]

As the example below shows, NP-ellipsis in Serbian differs from NP-ellipsis in English in that it does not require *one*-support: *ta* 'that' vs. *that one*. The example (2.34) is an illustration of NP-ellipsis involving demonstrative in a copular structure.

(2.34) *Jovanova   knjiga je   <u>ta</u>.*
       Jovan.POSS book   AUX that
       'Jovan's book is <u>that one</u>.'   (SERBIAN)

---

[19]Bailyn (2012) shows that Russian demonstratives and possessives license ellipsis of NP in structures other than copular construction.

The same is observed for an ordinary adjective in a conjoined construction. The adjective in the second conjunct (*stare* 'old') surfaces without *one*-support:

(2.35) *Pročitala sam   nove knjige ali   ne   i   <u>stare</u>.*
   read   AUX new books but not and old
   'I read the new books but not <u>the old ones</u>.'   (SERBIAN)

Support for the claim that NP-ellipsis is involved in copular constructions containing demonstratives comes from the copular construction data in which NP-ellipsis cannot be executed. For instance, in the example (2.36) below, the 'bare' demonstratives are as unacceptable as the non-elided-NP versions of the same structures, (2.37).

(2.36) (taken from Caruso (2011), p20, ex (10b))

  Knjiga je   ova / ta   / ona.
   book   AUX this / that-MEDIAL / that-DISTAL
  *'The book is this/that one.'   (SERBIAN)

(2.37) *Knjiga je   ova / ta   / ona   knjiga.*
   book   AUX this / that-MEDIAL / that-DISTAL book
   'The book is this/that book.'   (SERBIAN)

Note that (2.36) and (2.37) are minimally different from (2.34) while their grammatical statuses differ radically. The pivotal difference is that the example (2.34) involves NP-ellipsis (or, *one*-support in English) whereas (2.36) and (2.37) do not. Crucially though, ordinary adjectives exhibit divergent behavior: they can appear in the corresponding structure, as shown in (2.38). Therefore, demonstratives and ordinary adjectives do not pattern together as far as their distribution in copular constructions is concerned.

(2.38) *Knjiga je   stara.*
   book   AUX old
   'The book is old.'   (SERBIAN)

However, if the context in which a demonstrative appears in a copular construction is such that the non-elided-NP version would be acceptable (as in (2.34) above), the elided version is acceptable as well. For instance, the sentence in (2.36) is acceptable if there is an RC as a restrictive modifier:

(2.39) *Knjiga o   kojoj smo juče   pričali   je   ta   (~~knjiga~~).*
        book   about   which AUX yesterday talked.about   AUX   that book
        'The book that we talked about yesterday is that one.'   (SERBIAN)

To conclude then, the differences between the use of Serbian and English demonstratives in copular constructions that Bošković argues for might as well be related to the general execution of NP-ellipsis in these languages rather than given as arguments that Serbian demonstratives are adjectives or adjective-like elements, while the English ones are Ds. Serbian NP-ellipsis involves deletion of a noun while English NP-ellipsis requires *one*-support. Therefore, Serbian demonstratives that can appear in copular constructions are instances in which NP-ellipsis is executed; if no ellipsis is involved, the constructions are unacceptable. NP-ellipsis is however not a requirement for ordinary adjectives: as we have seen, they can appear in copular constructions that do not involve NP-ellipsis. Therefore, demonstratives and ordinary adjectives do not pattern together as far as their distribution in copular constructions is concerned.

2.2.2.3 Quantifiers

Unlike possessives and demonstratives, Serbian quantifiers cannot be used in copular constructions (Caruso (2011)):

(2.40) (taken from Caruso (2011), p20, ex (19a))

        *Ova knjiga je   *jedna / ?prva   / *nekoliko / *svaka / *neka.*
        this book   AUX   one   / first   / several   / each   / some
        'This book is *one / ?first / *several / *each / *some.'   (SERBIAN)

Such a distribution is expected given that the NP-ellipsis argued for above generally cannot be executed in either Serbian nor English if a quantifier is present in the copular construction. In other words, the versions involving the overt NP counterparts are unacceptable as well:

(2.41) a) *_Ova knjiga je svaka knjiga._
        this book AUX each book
        *'This book is each book.'   (SERBIAN)

    b) *_This book is each book._

Both Serbian and English however allow some lexical items/quantifiers to appear in the relevant structure. In Serbian, the lexical item _neki_ 'some' can appear in the copular construction but only if it is used non-quantificationally. That is, it can be used as a specific indefinite:[20]

(2.42) _Jovanova knjiga je neka (knjiga) iz 80-tih._
      Jovan.POSS book AUX some book from 80s
      'Jovan's book is some book from the 80s.'   (SERBIAN)

English also has certain quantifiers that do have such adjectival character to them, like _many_ and _most_ (Larson, p.c.). They can behave as proportional quantifiers (_few of the_, _many of the_) but they can also essentially behave as quantity predicates (_many_ 'big in number', _few_ 'small in number'), such as:

(2.43) a) _We are two this evening._

    b) _Our problems are many but our solutions are few._

To my knowledge, no one proposed that these English quantifiers do not belong to D category given their adjectival character shown above. In other words, these quantifiers are taken to be exceptions in this respect.

---

[20]Such a use of _some_ is found in English as well: _John is some guy (I met last night)._

60

To sum up, the claim that Serbian D-like elements show adjectival behavior because they can appear in copular constructions needs to be re-examined. First, possessive elements which are used as core and only data to illustrate this point are shown to be syncretic in their use as possessive adjectives and possessive pronouns. Hence, the data are inconclusive. Second, the syncretism of this type is found cross-linguistically in languages that are argued to have DP: English and Macedonian for instance. Third, it has been pointed out that English *nominal* possessives can appear in copular constructions. The claim that English possessives differ from Serbian possessives hence fails on empirical grounds (both for some pronominal possessives and nominal possessives). Fourth, Serbian demonstratives in copular constructions are shown to involve NP-ellipsis, on a par with their Russian counterparts (Pereltsvaig (2007b)). Their behavior in these constructions differ from the behavior of adjectives. Hence, Serbian demonstratives do not exhibit the adjectival behavior originally contributed to them. Fifth, Serbian quantifiers are shown not to be able to appear in copular constructions - the data directly contradicting the original proposal. At the same time, it has been shown that in fact some English quantifiers can be used as quantity predicates. Therefore, the copular construction, if used as a diagnostics for detection of adjectival behavior of the elements appearing in it, fails to consistently and successfully track the behavior of Serbian D-like elements and preserve the apparent difference in behavior between Serbian and English determiners.

2.2.3   Stacking

Another property specific to adjectives that D-like elements in Serbian exhibit is that they can stack. Bošković illustrates the phenomenon with an example involving a demonstrative and possessive. I will thus first discuss these instances and then move on to other D-like elements.

2.2.3.1 Demonstrative-Possessive

Bošković illustrates the stacking of Serbian D-like elements with the following example:

(2.44) (taken from Bošković (2005), p6, ex (14))

> *ta moja slika*
> that my picture
> 'that picture of mine'   (SERBIAN)

As discussed in §Chapter 1, Fukui (1986) made such an observation about Japanese demonstratives and possessives. And even though Bošković (2005) uses demonstratives and possessives to illustrate the phenomenon in Serbian, as shown in (2.44), he makes a rather general claim: <u>D-like elements</u> in Serbian can stack up. The idea behind the proposal is that it is the adjectival nature of Serbian D-like elements that allows such a distribution (ordinary adjectives can stack). If these elements were instantiations of D instead, the stacking would simply not be possible. So, unlike Serbian, English D-like elements cannot stack. The English counterpart to Serbian example above is flatly ungrammatical.

(2.45) *that my picture*

Bašić (2004) discusses this very same issue in her thesis and points out to the fact that 'in many unrelated languages determiners and possessives do cooccur, such as in Norwegian, Hungarian, Italian, Modern Greek etc.' (p18). She illustrates the point with the two following examples from Hungarian and Italian respectively, where the definite article and the possessive co-occur:

(2.46) (taken from Bašić (2004), p18, ex (36))

> *a te kalap-od*
> the you hat
> 'your hat'   (HUNGARIAN)

(2.47) (taken from Bašić (2004), p18, ex (36))

> *la   mia   penna*
> the   my   pen
> 'my pen'   (ITALIAN)

Similarly, the co-occurrence of a demonstrative and possessive is legitimate in Hungarian, Macedonian, Bulgarian and German, shown respectively below.

(2.48) (taken from Abney (1987), p173, ex (292))

> *Peter   ezen/azon   kalapja*
> Peter.POSS   this/that   hat
> 'Peter's this/that hat'   (HUNGARIAN)

(2.49) (taken from Dimitrova-Vulchanova and Tomić (2009), p11, ex (11a))

> *ovie   dve   moi   knigi*
> these   two   my   books
> 'these two books of mine'   (MACEDONIAN)

(2.50) (taken from Dimitrova-Vulchanova and Tomić (2009), p11, ex (11a'))

> *tezi   dve   moi   knigi*
> these   two   my   books
> 'these two books of mine'   (BULGARIAN)

(2.51) *diese   meine   Bücher*
> these   my   books
> 'these books of mine'   (GERMAN)[21]

---

[21] All German data are from Zora Jovanović, p.c., unless otherwise indicated.

Hence, we can see that many languages with definite articles allow a definite article and/or demonstrative to co-occur with a possessive. The latest claim that the proponents of the Parameterized DP-Hypothesis have put forth is that cross-linguistic differences with respect to some adjectival properties are not excluded. Hence, the stacking of definite article/demonstrative and possessive in some DP-languages is expected. However, this shared adjectival behavior should not indicate that the elements in question are all syntactically/categorially the same.

2.2.3.2 Other Determiners

So far we have discussed only instances of the determiner-possessive co-occurrences. What about other D-like elements? English, for instance, allows some D-like elements to co-occur with the definite article or with each other. The phrases below are legitimate in English:

(2.52) a) *all the boys*

     b) *the few boys*

     c) *both the boys*

     d) *all these boys*

     e) *these many books*

     f) *all the many outstanding issues*

Hence, even though English and Serbian differ in allowing the co-occurrence of demonstrative-possessive, they do not differ in allowing co-occurrences of some other determiners. In fact, the stacking of D-like elements other than determiner-possessive can be found in other DP languages, such as Macedonian, German and Hungarian.

(2.53) a) *taa   nekoja devojka*
       that   some   girl
       'that some girl'   (MACEDONIAN)

64

b) *tie   mnogu knigi*
   these many   books
   'these many books'

c) *site tie   knigi*
   all   these books
   'all these books'

(2.54)   a) *die   vielen Bücher*
           these many   books
           'these many books'   (GERMAN)

        b) *all die   Bücher*
           all   these books
           'all these books'

(2.55)   a) *ez   a   sok   könyv*
           this the many book
           'these many books'   (HUNGARIAN)[22]

        b) *ez   az   összes könyv*
           this the all   book
           'all these books'

The stacking phenomenon is hence subject to intra- and cross-linguistic variation. While some languages allow certain 'combinations' of determiners, they might not allow all. This holds for English determiners, the elements for which it has been wrongly claimed to differ in this respect from Serbian determiners. It also holds for determiners in other DP-languages, such as Hungarian, Italian, Macedonian, Bulgarian and German. What causes this variation does not seem to be the question of the presence or absence of a DP in a language since all of the languages discussed (besides Serbian) have definite articles.[23] In other words,

---

[22] All Hungarian data are from Brigi Fodor, p.c., unless indicated otherwise.

[23] To account for the cross-linguistic differences discussed here, cartographic proposals have been put forth arguing that D hosts definite articles while all D-like elements are hosted in some other projections: DemP, PossP, QP (Julien (2002), Bašić (2004), among others). For such proposals, the observation that some D-like elements can stack (in some languages) falls out naturally.

some elements in some DP-languages, which are generally argued to be lexical instantiations of D, allow stacking, or according to Bošković's proposal show adjectival behavior. In the next section I will show how the stacking data discussed here can be accounted for under the uniform categorial treatment of determiners. I will focus on English and Serbian to illustrate the proposal.

2.2.3.3 Proposal

To account for the stacking of possessives with other determiners, I essentially adopt Larson's proposal (Larson (1991)) that possessives in English are arguments of D. In pre-nominal possessives (or, 's-possessives), the D is non-overt, as shown in (2.56) whereas in post-nominal possessives (or, PP-possessives), the D is overt, shown in (2.57).[24]

(2.56) PRE-NOMINAL POSSESSIVES

[dP Pro THE [DP John's books [D' ~~THE~~ [DP ~~John's~~]]]]

(2.57) POST-NOMINAL POSSESSIVES
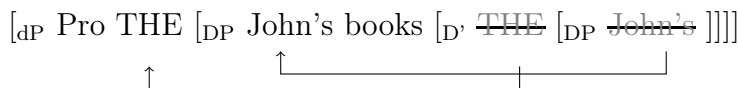
[dP Pro **the** [DP books [D' ~~the~~ [PP of John's]]]]
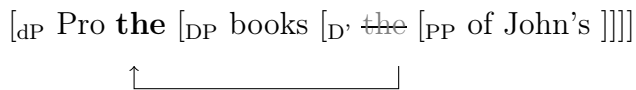
Such a structure of possessives predicts that there could be languages in which pre-nominal possessives have overt D heads (as they do in English post-nominal possessives).[25] This prediction is attested in the languages discussed above: Hungarian, Italian, Macedonian, Bulgarian, German and Serbian. A relevant question that arises though is what causes

---

[24]Larson (1991) argues that post-nominal possessives (PP) and pre-nominal possessives ('s) parallel to-PPs and double object datives respectively. In other words, pre-nominal possessives are a from of voice alternation in a DP.

[25]There is a question what causes the difference in overtness of D in post- and pre-nominal possessives in English, where post-nominal ones require an overt D and the pre-nominal allows for variation. I leave this question for future research.

cross-linguistic variation in the overtness of D. I leave this question for future research.

As far as the stacking of D-like elements other than possessives is concerned, I propose that in all such instances, there is an underlyingly partitive structure, as suggested to me by Larson, p.c. So, the English phrase: *all the boys* has the structure as in (2.58):[26]

(2.58) [$_{dP}$ all [$_{NP}$ ONE(S) [$_{PP}$ (of) the boys]]]

In other words, these structures have a rather normal [D NP] structure. The quantifier takes ONE(S) as its restriction argument, which is a constituent with the partitive, PP. The NP, ONE(S), and the partitive, together determine the range of quantification. The argument showing that the partitive is linked to 'ONE(S)' is found in the impossibility of (2.59a) as opposed to (2.59b). The former does not allow the partitive *of*-phrase whereas the latter requires it.

(2.59)   a) *everyone of the boys*

         b) *every one of the boys*

Now what about Serbian? There are two possible ways in which phrases of the English type discussed above can be expressed: (a) without a preposition and (b) with a preposition. English favors the overt preposition (*many of the boys/some of the boys/each of the boys*, etc.) whereas Serbian generally allows both options: the presence or, the absence of the preposition. The difference between the two reflects itself in the morphological case that the partitive phrase is assigned. If there is no overt preposition, the partitive gets concordial case with the quantifier (and, the quantifier gets case depending from where it is in the structure; if it is for instance in an object position it gets accusative, as shown in (2.60a)). If there is an overt preposition, the preposition assigns genitive case to its DP argument whereas the quantifier still receives the case from the 'outside' (as shown in (2.60b)). Compare:

---

[26] All the English examples used in the discussion on partitives are from Larson, p.c..

(2.60)   a) *svaku*   *tu*   *knjigu*
            each.**ACC**   that.**ACC**   book.**ACC**

            'each of these books'   (SERBIAN)

         b) *svaku*   *od* *tih*   *knjiga*
            each.**ACC** of   these.**GEN** books.**GEN**

            'each of these books'

I suggest that the case variation we see in (2.60) relates to the case feature interpretability on P. In particular, a non-overt preposition bears an uninterpretable case feature, allowing for the case agreement to 'pass through' it; whereas, an overt preposition bears an interpretable genitive case feature, causing its argument to surface in genitive case. The diagrams below illustrate the case agreement. The irrelevant structure is suppressed.

(2.61) TRANSPARENT P

(2.62) <u>OVERT P</u>

```
                        ╱╲
                      ╱    ╲
                    ╱        ╲
                  v            VP
              [iACC[1]]       ╱╲
                            ╱    ╲
                          V        DP
                                  ╱  ╲
                                ╱      ╲
                              D          PP
                            svaku       ╱╲
                        [uACCval[1]]   ╱    ╲
                                      P        DP
                                     od      tih knjiga
                                  [iGEN[3]]  [uGENval[3]]
```
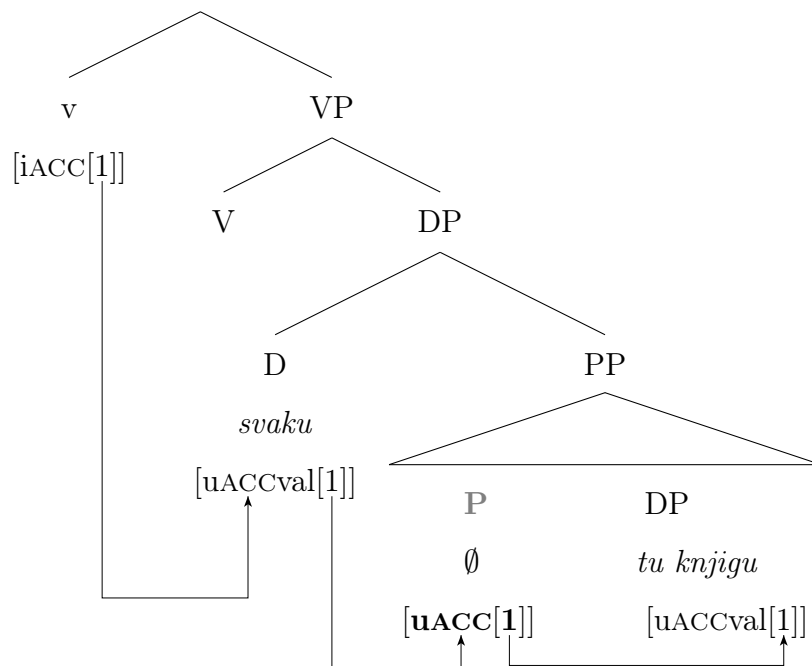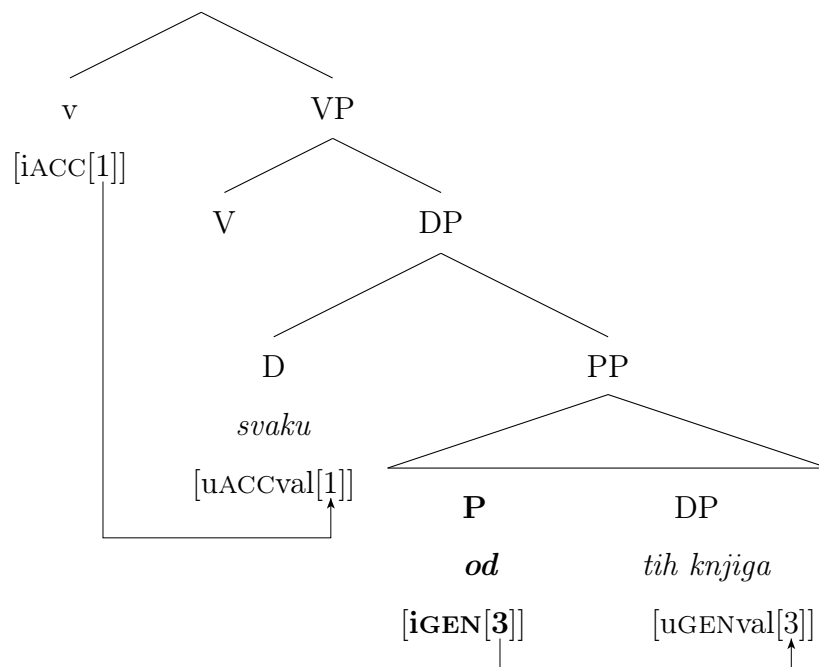
The argument of non-overt P gets concordial case of the quantifier, as shown in (2.61) whereas the argument of overt P enters the agreement relation with the interpretable case feature on P, as shown in (2.62).

Such a phenomenon is not specific to Serbian partitives. The same case feature interpretability variation can be found in Differential Object Marking (DOM) structures, which Spanish is notoriously known for (Boeckx (2003), Rodríguez-Mondoñedo (2007), Larson (in press)). The animate objects of transitive verbs require a differential object marker (*a*), as shown in (2.63a) whereas the inanimate objects do not allow it, as shown in (2.63b).[27] [28]

(2.63) (taken from Larson (in press), p89, ex (208))

a) *Esta   mañana   he   visto *(**a**)   Juan/la   hermana   de   Maria.*
this   morning   I-have   seen   DOM   Juan/the   sister   of   Maria
'This morning I saw Juan/the sister of Maria.'

---

[27]Rodríguez-Mondoñedo (2007) shows that under certain conditions, inanimates can actually get the marker.

[28]The DOM is homophonous to the dative preposition and historically derives from it (Larson (in press)).

b) *Esta   mañana   he   visto (*a)   *la   nueva   iglesia.*
   this   morning I-have seen   DOM   the   new   church
   'This morning I saw the new church.'   (SPANISH)

DOM is puzzling from a perspective of case theory. Since it appears with direct objects of transitive verbs, its environment is such that there is an accusative case available - little v bears an interpretable accusative case. So, if one claims that DOM carries an interpretable accusative case feature then the question is what happens with the interpretable accusative case feature on little v. Similarly, if one claims that DOM does not carry an accusative case feature, then the question is how does the case feature on little v agrees with the direct object, passing by the non-agreeing DOM. The proposal that settles this issue is provided in Huidobro (2009): DOM is a concordial element that bears an uninterpretable, unvalued accusative case feature. In other words, it is 'transparent' to accusative case:[29]

(2.64) (taken from Larson (in press), p90, ex (210))
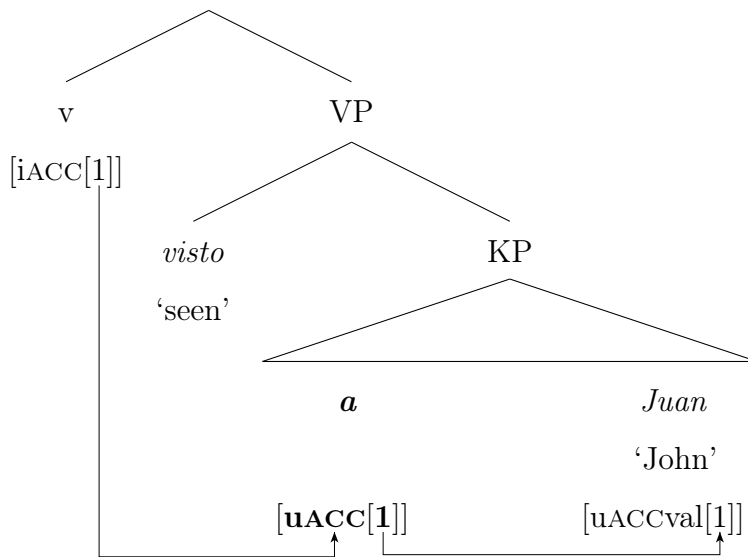
Hence, the Serbian partitive and the Spanish DOM structures show similar case feature phenomenon: Serbian non-overt (transparent) P bears an uninterpretable unvalued case fea-

---

[29]Huidobro claims that DOM is of a category K and that it differs from the category P precisely in the case feature specifications: uninterpretable, unvalued in K vs. interpretable, unvalued in P.

ture just like Spanish DOM. On the contrary, Serbian overt P has the interpretable unvalued case feature, which is the featural characteristic of Ps in general.

To conclude, the cross-linguistic research on the stacking phenomenon of D-like elements strongly suggests that the variation detected cannot be related to the adjectival nature of elements participating in it. The detected cross- and intra-linguistic differences cannot be accounted for on the basis of the proposed differences in the nominal structure of the languages: DP vs. NP. I proposed instead that the observed differences stem from the possibility of having an overt D in possessive structures and allowing transparent prepositions in partitives. In particular, following Larson, I argued that possessive structures involve the presence of D heads which take possessives as their arguments. The observed cross-linguistic differences regarding pre-nominal possessives and their co-occurrence with other D elements are hence accounted for by allowing D to be overt in some languages. The cause of such variation is left for future research. To account for the stacking of D-like elements, excluding possessives, I proposed that these structures underlyingly involve partitives whose Ps can have different specifications of the case feature interpretability: if P is transparent, the case feature is uninterpretable (on a par with Spanish DOM) and, if P is overt, it bears an interpretable case feature. The cross- and intra-linguistic differences are argued to amount to the possibility of allowing the transparent partitive P.

2.2.4 Word Order

Another observation about Serbian D-like elements, which is argued to indicate their adjectival behavior, is that they can, on a par with ordinary adjectives, appear in a relatively unconstrained order. I will first present Serbian data and then move on to English and Macedonian to compare the word order restrictions among these languages.

2.2.4.1 Serbian Determiners

The following example is used as an illustration of the relatively unconstrained word order of Serbian D-like elements: the possessive and ordinary adjective can permute the order in which they occur prenominally:

(2.65) (taken from Bošković (2005), p7, ex (15))

    a) *Jovanova*   *skupa*   *slika*
       John.POSS expensive picture

                                            (SERBIAN)

    b) *skupa*   *Jovanova*   *slika*
       expensive John.POSS picture
       'John's expensive picture'

    The crucial phrase is 'relatively unconstrained'. Many researchers working on possible word orders in which Serbian D-like elements can appear recognize that not every combination is possible. For instance, it has been recognized that Serbian demonstratives necessarily precede both possessives (2.66a) and ordinary adjectives (2.66b), (Browne and Nakić (1975), Zlatić (1997), Leko (1999), Ivšić (2008) and Bošković (2009a)). The same holds for Russian (Pereltsvaig (2007b), Bailyn (2012)).

(2.66) (taken from Bošković (2009a), p194, ex (14))

    a) *ova* *Jovanova*   *slika*   / ?*Jovanova   *ova* *slika*
       this Jovan.POSS picture /   Jovan.POSS this picture
       'this picture of Jovan's'   (SERBIAN)

    b) *ova* *skupa*   *kola* / ?*skupa   *ova* *kola*
       this expensive car /   expensive this car
       'this expensive car'

Demonstratives also precede most of the quantifiers but, they generally do not precede the universal quantifiers *svi* 'all' and *svaki* 'each/every'. These two quantifiers 'typically occupy the first position in the prenominal complex' (Bašić (2004), p13). Such an observation

is found in Zlatić (1997) as well. She argues that the universal quantifiers can be preceded by demonstratives but when they are, the word order is marked. No other D-like element besides demonstratives can precede the universal quantifiers though. So, while demonstratives precede most of the quantifiers, they are generally preceded by the universal quantifiers (2.67). The same observation is made for Russian in Bailyn (2012).

(2.67) a) *svi ovi naučnici* / *ovi svi naučnici
           all these scientists / these all scientists
           'all these scientists'   (SERBIAN)

        b) *svaki ovaj naučnik* / **ovaj svaki naučnik*
           each this scientist / this each scientist
           'each of these scientists'

Further, Zlatić (1997) and Bašić (2004) observe that quantifiers must precede possessives (2.68a,c) and ordinary adjectives (2.68b,d). Again, the same word order restriction holds for Russian (Pereltsvaig (2007b), Bailyn (2012)).

(2.68) a) *svi njegovi studenti* / ?**njegovi svi studenti*
           all his students / his all students
           'all his students'   (SERBIAN)

        b) *svaki mladi naučnik* / ?**mladi svaki naučnik*
           each young scientist / young each scientist
           'each young scientist'

        c) *mnogi moji saradnici* / ?**moji mnogi saradnici*
           many my collaborators / my many collaborators
           'many collaborators of mine'

        d) *mnogi mladi naučnici* / ?**mladi mnogi naučnici*
           many young scientists / young many scientists
           'many young scientists'

Zlatić (1997) and Bašić (2004) also observe that there are word order restrictions imposed on the indefinite determiners *neki* 'some' and *jedan* 'a/one': they must precede possessives.

(2.69) (taken from Bašić (2004), p13, ex (26))[30]

jedan	/	*neki*	*njegov*	*članak*	vs.	**njegov*	*jedan*	/	*neki*	*članak*
one		some	his	article		his	one		some	article

'a/some article of his'   (SERBIAN)

Hence, the word order restrictions imposed on Serbian D-like elements are not few.[31] An interim summary of the data we have seen so far is the following: (a) demonstratives precede possessives, adjectives and quantifiers, (b) universal quantifiers precede demonstratives, (c) quantifiers precede possessives and adjectives and, (d) indefinite determiners precede possessives.

(2.70) POSSIBLE WORD ORDERS OF D-LIKE ELEMENTS IN SERBIAN

DEM > POSS/ADJ/Q	√
∀ > DEM	√
DEM > ∀	*? (marked)
Q > POSS/ADJ	√
INDEFDET > POSS	√

If we were to put all these word order restrictions together, the following hierarchy emerges:

(2.71) ∀ > DEM > Q > INDEFDET > POSS/ADJ

Given the hierarchy, the original observation that Serbian D-like elements appear in a 'relatively unconstrained' word order seems to be largely false. There are only a few elements that could be described as such: demonstratives can sometimes precede universal quantifiers (though this is very infrequent and entails stylistically-marked context) and, possessives and

---

[30]I added the grammatical version.

[31]Zlatić (1998) actually shows that the same restrictions hold in other Slavic languages: Belarusian, Czech, Polish and Russian (p18, Appendix 1).

ordinary adjectives can switch positions: Poss > Adj or, Adj > Poss. Other D-like elements have a more or less fixed order in which they appear in the pre-nominal complex.

To capture these restrictions, Zlatić proposes that quantifiers and demonstratives are adjuncts of NP while possessives and ordinary adjectives are adjuncts of N', as shown in §Chapter 1. In other words, different D-like elements are situated in different adjunct positions. Bošković, on the other hand, discusses word order restrictions only partially. He does not discuss universal quantifiers, quantifiers and indefinite determiners; he discusses only demonstratives. To account for the restriction imposed on demonstratives (excluding their position with respect to the universal quantifiers), he proposes that 'these facts receive a principled account in terms of a filtering effect of semantics' (Bošković (2009a), p194). He argues that demonstratives are of a semantic type that is different from the semantic type of other D-like elements and attributive adjectives. The former are of type $<<e,t>, e>$ (following Kaplan (1977/1989)) whereas the latter are of type $<e,t>$. Demonstratives pick out an individual and once the individual is picked out, further modification is impossible. Hence, demonstratives must be semantically composed after adjectives: both attributive adjectives and other D-like elements, i.e., quantifiers and possessives. Since this is a semantic requirement, syntax can actually generate any word order while semantics will filter out the unacceptable ones.[32] Note, however, that this proposal does not track the distribution of demonstratives and universal quantifiers. As far as possessives are concerned, Bošković (2009a) adopts the modificational view of possessives (Partee and Borschev (1998)

---

[32]In Bošković (to appeara), the author shows that Chinese and Serbian differ in that Chinese demonstratives do not have a requirement to linearly precede other elements within a noun phrase. To account for the difference between the two languages, he argues that there is a contextual pronominal variable in Chinese. Building on work of Bach and Cooper (1978), he claims that 'there is a free variable built into the semantics of determiners [...] [and it] carries the same function as that of a contextual pronominal variable' (Appendix, p40). This variable 'is not available in S[erbo]C[roatian] demonstratives or there simply is no such variable in the denotation of SC demonstratives.' (ibid.) Bošković speculates that 'the different behavior of Chinese and SC demonstratives may be related to the presence of a classifier on the demonstrative in Chinese (Chinese demonstratives must co-occur with a classifier), where the classifier that comes with a demonstrative may be a realization of the syntactically visible contextual restriction.'

and Larson and Cho (1999)). Both attributive and possessive adjectives are of a semantic type <e,t>. Hence, compositional semantics does not impose any restrictions on the order in which these elements are composed. His proposal thus captures partial word order restrictions. There have also been cartographic approaches to the word order restrictions in which each D-like element is mapped onto its own projection (Bašić (2004), Ivšić (2008)), yielding the attested word orders.

I will not offer a proposal here but simply point out to the fact that the original observation that Serbian D-like elements appear in a relatively unconstrained word order fails on empirical grounds. The detailed examination of possible word orders reveals that the order of these elements is largely strict. To my knowledge, Bošković (2005) is the only author who draws a parallel in adjectival nature between D-like elements and ordinary adjectives based on the word order phenomenon. Even though he recognizes that the word order among these elements is sometimes fixed, he adds that 'the same course holds for adjectives [...] What is important here is the contrast between English and S[erbo]C[roatian] with respect to the permutability of the elements in question' (Bošković (2005), p6, ft.8).[33] In other words, the fact that Serbian allows a <u>freer</u> word order in which D-like elements can appear than English entails that the former are adjectives or adjective-like (since they are more similar to ordinary adjectives) while the latter are instantiations of D. In his 2009 paper, he actually says: 'while English D-items must precede adjectives, S[erbo]C[roatian] allows A[djective]s to precede some "D"-items' (Bošković (2009a), p193). The examples that he provides all involve

---

[33] Zlatić (1997), citing Mrazović and Vukadinović (1990), provides the following order of adjectives in a prenominal position in Serbian:

i) .   I   II   III   IV
   (quantificational) (referential) (qualitative/material) (classificational)
   (taken from Zlatić (1997), Ch2, p6, ex (11))

The following example is used to illustrate the observed word order among adjectives:

ii) *mnogobrojni tadašnji dobri školski drugovi*
    numerous of-that-time good school friends
    'numerous former good school friends'   (SERBIAN)
    (taken from Zlatić (1997), Ch2, p6, ex (12))

possessive adjectives and no other D-like elements. In the next section, I will take a look at English first and discuss the word orders of determiners with respect to the permutability mentioned in the 2005 paper and then, I will turn to Macedonian D-like elements and discuss them in respect to the claims made in both 2005 and 2009 paper. The prediction that the Parametrized DP-Hypothesis makes is that the word order of determiners in DP-languages (English, in particular) must be more rigid than the one observed for determiners in DP-less languages (Serbian as an exemplar). I show below that this prediction is false.

2.2.4.2   English and Macedonian Determiners

In the previous section (2.2.3), we have seen that some English D-like elements can stack. So one could say:

(2.72) *all these boys / all John's children / these many books / John's smart students*

Note however that reversing the order of the D-like elements yields unacceptable phrases:

(2.73) **these all boys / *John's all children / *many these books / *smart John's students*

In other words, the word order of English D-like elements that can co-occur with one another follows the hierarchical order given below:

(2.74) ∀ > DEM > Q > POSS > ADJ

Such a hierarchy is reminiscent of the one given for Serbian in (2.71) above. Hence, the ordering of the D-like elements (that allow stacking) patterns together in these two languages. The ordering of D-like elements in Serbian is freer only in a sense that possessive adjectives can permute the order with ordinary adjectives and the universal quantifiers could precede demonstratives.

Further evidence that the word ordering restrictions imposed in Serbian hold in other DP-languages comes from Macedonian. This language has definite articles and is argued to be a DP-language, on a par with English. However, it differs from English in that the stacking of its D-like elements is less restricted. In what follows I show that Macedonian and Serbian D-like elements are subject to the same word order restrictions (the only exception is the possibility of Serbian demonstratives preceding universal quantifiers, which is impossible in Macedonian). In other words, Macedonian D-like elements allow freer word order than English: Macedonian possessive adjective can permute the order with ordinary adjectives. Such a finding contradicts the prediction that determiners in DP-languages are more rigid order-wise than determiners in DP-less languages, unless the claim made about English and Serbian determiner word-orders is not expected to extend to other languages. If that is the case, then the proposal cannot be understood as encompassing DP- and DP-less languages in general but strictly making a distinction between English and Serbian.

First, Macedonian demonstratives must precede possessives (2.75a) and ordinary adjectives (2.75b):[34]

(2.75)   a) *ovaa   moja   slika*   /   **moja   ovaa   slika*
          this   my   picture / my   this   picture
          'this picture of mine'   (MACEDONIAN)

    b) *ovaa   skapa   kola*   /   **skapa   ovaa   kola*
       this   expensive car / expensive this   car
       'this expensive car'

Second, the universal quantifier *site* 'all' must precede demonstratives:[35]

---

[34]Note that I use the first person singular possessive adjective (*my*) in the Macedonian example instead of a possessive adjective involving a personal name *John's* as in the Serbian example above. The reason I am doing this is that Macedonian disprefers the possessive forms derived from personal names and uses a preposition followed by a noun instead (*na*.PREP *Jovan*). Pronominal possessives, on the other hand, are pre-nominal.

[35]The universal quantifier *sekoj* 'each' is intrinsically definite so it cannot co-occur with another definite element, such as a demonstrative, or a definite article. (Ilina Stojanovska, p.c.)

(2.76) *site   ovie   naučnici   /   *ovie   site   naučnici*
      all   these   scientists   /   these   all   scientists
      'all these scientists'   (MACEDONIAN)

Third, quantifiers must precede possessives (2.77a,c) and ordinary adjectives (2.77b,d).

(2.77)   a) *site   moi   studenti   /   *moite   site   studenti*
        all   my   students   /   my   all   students
        'all my students'   (MACEDONIAN)

        b) *sekoj   mlad   naučnik   /   *mladiot   sekoj   naučnik*
        each   young   scientist   /   young   each   scientist
        'each young scientist'

        c) *mnogu   moi   sorabotnici   /   *moi   mnogu   sorabotnici*
        many   my   collaborators   /   my   many   collaborators
        'many collaborators of mine'

        d) *mnogu   mladi   naučnici   /   *mladi   mnogu   naučnici*
        many   young   scientists   /   young   many   scientists
        'many young scientists'

Fourth, the indefinite determiners must precede possessives:

(2.78) *nekoj   /   eden   moi   natpis*   vs.   *moi   nekoj   /   eden   natpis*
      some   /   one   my   article   my   some   /   one   article
      'a/some article of mine'   (MACEDONIAN)

Finally, Macedonian possessives and ordinary adjectives, just like their Serbian counterparts, can permute the order with each other.[36]

(2.79)   a) *moja   skapa   slika*
        my   expensive   picture

                                          (MACEDONIAN)

---

[36]Following the proposal made in the previous section about the possessive structures, possessives are arguments of Ds. Macedonian provides clear evidence that this is indeed the case. If the first element in the pre-nominal context is a possessive, then it intrinsically carries the definiteness feature. However, if the possessive surfaces in the second position in the pre-nominal context, preceded by an ordinary adjective, then the definite article must appear on the adjective, as shown in (2.79b). The definiteness feature always surfaces on the first element in Macedonian nominal phrase.

b) *skapata   moja slika*
   expensive my   picture
   'my expensive picture'

To sum up, the word order restrictions imposed on Macedonian D-like elements almost perfectly match the ones of their Serbian counterparts. This is a rather striking finding given that the determiners in DP- and DP-less languages are claimed to be of a different category: Ds and As or Xs. The word order restriction argument is supposed to show that word orders of determiners in DP-less languages are less rigid and suggest that this is so because determiners are actually adjoined to an NP. On the contrary, determiners in DP-languages are Ds and they are supposed to be more rigid in the relevant respect. The data discussed in this section regarding the word orders of determiners in Serbian and English and in Serbian and Macedonian contradict these claims and essentially show that the argument for the adjectival status of D-like elements based on their word orders is dubious.

2.2.5   Ban on Modification of Pre-Nominal Possessives

Another argument provided to support the claim that Serbian determiners are adjectives or adjective-like elements concerns the ban on modification of prenominal possessives. The argument is thus only about prenominal possessives and not any other D-like element.[37] The relevant observation is that Serbian prenominal possessives cannot be modified by adjectives

---

[37]I am not aware of any language that allows modification of demonstratives or quantifiers. If these elements are indeed adjectives, the valid question to ask then is why are they not able to be modified by adverbs given that the ordinary adjectives can be modified by adverbs. Caruso (2011) shows that Serbian D-like elements cannot be modified by adverbs unlike ordinary adjectives.

  i) *veoma velik prozor*
    very big window
    'very big window'   (SERBIAN)

  ii) **veoma ovaj / moj / jedan prozor*
     very this / my / one window
    *'very this/my/one window'
    (adapted from Caruso (2011), p20 , ex(9c))

80

(Bošković (2005)). The logic of the argument is the following: since adjectives cannot modify other adjectives, the fact that prenominal possessives cannot be modified by adjectives indicates that they are adjectives or adjective-like.[38]

(2.80) (taken from Bošković (2008b), p107, ex (30))

*moj / bogati susjedov   konj
my   / rich   neighbor's horse
'my / a rich neighbor's horse'   (SERBIAN)

Such a behavior of prenominal possessives is observed in Russian as well (Pereltsvaig (2007b)). Pereltsvaig however argues that the ban on modification of Russian prenominal possessives does not relate to their adjectival status but rather stems from their inability to be derived from nouns modified by adjectives or other possessives, i.e., prenominal possessives must be formed from head nouns (citing Babyonyshev (1997)).[39] The same restriction applies to the derivation of Serbian prenominal possessives as well and it consequently undermines the relevance of Bošković's observation with respect to attributing adjectival properties to these elements. The discussion to follow provides further arguments for non-adjectival behavior of Serbian prenominal possessives. I show, building on work of Corbett (1987), that these elements in Serbian, and Slavic, in general, are subject to a number of rather peculiar restrictions that no other adjectives obey; hence, their claimed adjectival nature might be questioned from that perspective. I will also show that these elements show some characteristics of nouns rather than adjectives, which further challenge the proposal.

---

[38]The example (2.80) is, as Bošković notes, acceptable if the adjective *bogati* 'rich' modifies the noun *konj* 'horse'.

[39]Pereltsvaig (2007b) also reports that Russian prenominal possessives cannot be modified by adjectives but that they cannot be modified by adverbs either; a surprising finding since adjectives can be modified by adverbs in general. Bošković (2009a) disputes this observation in ft.6, p193 where he provides a Russian example containing a prenominal possessive modified by the adverb *only*.

2.2.5.1   Some Non-Adjectival Properties

Corbett (1987) reports that prenominal possessives in many Slavic languages (Serbian included) 'can be formed when the referent is human, and also occasionally when it is animal. Furthermore, the referent must be singular and specific.' (ibid, p301) He illustrates this point with the two following examples from Upper Sorbian. In (2.81a), the prenominal possessive is plural and in (2.81b), the prenominal possessive is non-specific; hence the observed ungrammaticality.

(2.81) (taken from Corbett (1987), pp301-302, exs (9) and (11) respectively)

    a) *našich mužowe   prawo
       our   husbands' right
       'our husbands' right'   (UPPER SORBIAN)

    b) *někajkeho mužowe   prawo
       some   husband's right
       'some husband's right'

Such formation restrictions do not apply to ordinary adjectives. 'While [possessive] adjectives share several syntactic properties with ordinary adjectives, their formation is restricted in a way not found with other derived adjectives.' (Corbett (1987), p302) And indeed, unlike prenominal possessives, Serbian ordinary adjectives can be formed from nouns that are non-human (2.82a), plural (2.82b) or non-specific (2.82c).

(2.82)   a) <u>NON-HUMAN</u>[40]

      *Pepeljare su   se,   uz   **metalni** zveket, kotrljale za   njom.*
      ashtrays AUX REFL besides metallic clink   roll   for her
      'The ashtrays were rolling behind her, accompanied with the metallic clink.'

---

[40]The example is taken from the Corpora of Contemporary Serbian Language. The source is *Iljf, Ilja; Petrov, Jevgenij. Dvanaest stolica. ASPAC. UDK: 882-31.*

b) <u>PLURAL</u>[41]

*Gadjanje jaja   novcem bila   je   posebna **dečija** zabava.*
hitting   eggs   money   been   AUX   special children   fun

'Throwing money on eggs was a special children's fun.'   (SERBIAN)

c) <u>NON-SPECIFIC</u>[42]

Blago onima   koji   žele   da   se   dodvore   koristeći takvu
envy   those   which   want   that   REFL   get.attention using   such

*ljudsku slabost   kao   što   je   **majčinska** ljubav.*
human   weakness as   that   AUX   mother's   love

'Blessed are those who want to get attention by using a human weakness such as mother's love.'

Furthermore, Corbett reports that prenominal possessives in some Slavic languages can control personal pronouns and that such a behavior 'is not possible for other types of adjectives, even relational adjectives derived from nouns' (Corbett (1987), p304). The author illustrates this point with the following two examples from Upper Sorbian: example (2.83) shows that the personal pronoun *wón* 'he' is controlled by the prenominal possessive *wučerjowa* 'teacher's'; and, example (2.84) shows that the pronoun *wona* 'it' cannot be controlled by the ordinary adjective *kožany* 'leather'. The observation holds for Serbian as well.

(2.83) (taken from Corbett (1987), p304, ex (23))

To   je   našeho <u>wučerjowa</u> zahrodka. <u>Wón</u> wjele   w   njej dźěła.
that   AUX   our   teacher's   garden   he   a.lot   in   it   work

'This is our teacher's garden. He [our teacher] works a lot in it.'

(UPPER SORBIAN)

---

[41]The example is taken from the Corpora of Contemporary Serbian Language. The source is *Politikin magazin (2001). Beograd: Politika novine i magazini. UDK: 79-659*

[42]The example is taken from the Corpora of Contemporary Serbian Language. The source is *Ostin, Džejn. Razum i osećajnost. Narodna knjiga, 1977. UDK: 820-31.*

(2.84) (taken from Corbett (1987), p304, ex (24))

> *To   je   <u>kožany</u> płašć. *<u>Wona</u> je   droha.*
> that AUX   leather coat   it   AUX   expensive
>
> 'This is a leather coat. It [leather] is expensive.'   (UPPER SORBIAN)

The fact that prenominal possessives can control personal pronouns suggests that these elements have 'noun-like' properties and represents itself as a strong counterargument for treating them as adjectives or adjective-like elements.

Similarly, Zlatić (1998) points out to the fact that Serbian prenominal possessives can be antecedents of reflexives.[43]

(2.85) (taken from Zlatić (1998), p11, ex (22))

> *Jovan$_i$ je   pročitao / izgubio Marijin$_j$ članak o   sebi$_{i/\%j}$.*
> Jovan   AUX   read   lost   Marija's article about self
>
> 'Jovan read/lost Marija's article about herself / him.'   (SERBIAN)

And here again, prenominal possessives show the behavior that is 'atypical' for ordinary adjectives but very common for nouns:[44]

(2.86) *Jovan$_i$ je   pročitao novinarski$_j$ članak o   sebi$_{i/*j}$.*
      Jovan   AUX   read   newspaper article about self

      'Jovan read a newspaper article about himself.'   (SERBIAN)

---

[43]Zlatić reports that the binding of the reflexive by the prenominal possessive is dispreferred (she uses the % sign to indicate this) to the long-distance binding by the subject. Despić (2011) on the other hand claims that unlike Zlatić's informants (3 out of 11), his informants (the number is not reported) unanimously reject the binding of the reflexive by the prenominal possessive. My own native judgments differ from the ones that Despić reports and I will rely on them in the rest of my research until some controlled study emerges whose robust results will settle the issue.

[44]Note that the adjective *novinarski* is derived from a noun *novinar* 'a newspaper writer'. Hence the Serbian adjective is morphologically related to the noun: 'newspaper writer', unlike in English.

Pereltsvaig (2007b) makes the same observation for Russian prenominal possessives. In his reply to her, Bošković (2009a) does not address this issue.[45]

The restrictions on prenominal possessive formation and their noun-like properties discussed above cast doubt on the validity of Bošković's argument regarding the adjectival nature of prenominal possessives. Apart from the fact that prenominal possessives are subject to a derivational restriction regarding the complexity of a noun they can be derived from, there are also other, rather peculiar, derivational restrictions that these elements obey (while adjectives do not). The adjectival nature attributed to them does not follow from any of these restrictions. The binding data further show that these elements also exhibit noun-like properties, diminishing the adjective-like nature originally attributed to them.

2.2.5.2 Modification of Pre-Nominal Possessives Cross-Slavically

Additional counterarguments for the proposal that prenominal possessives are adjectives or adjective-like elements since they cannot be modified by other adjectives come from the cross-Slavic investigation of the ban on modification phenomenon. Many Slavic languages have prenominal possessives of the kind that Serbian has. And many of these languages lack definite articles. The ban on modification of prenominal possessives however varies across

---

[45]Pereltsvaig (2007b) further presents another argument showing noun-like properties of Russian prenominal possessives: they can introduce a referent and bear θ-roles. Serbian prenominal possessives behave the same in this respect. Bošković (2009a) in his reply addresses this issue and stresses the fact that his proposal is exclusively syntactic:

> Notice in this respect that when it comes to demonstratives and possessives the no-DP analysis only changes their categorial status, or to be more precise, takes seriously their adjectival morphology (which is an unexplained accident under the DP treatment of these elements). Nothing else is different. Their semantics remains unchanged. There is then no reason at all to assume, as Pereltsvaig does, that T[raditional]N[oun]P[hrase]s with possessives should be unable to bear θ-roles and introduce a referent (because this is something adjectives cannot do) in article-less languages under the no DP-analysis. Introducing a referent and functioning as an argument are semantic properties, and the no-DP analysis does not posit any changes in the semantics of these elements (it certainly does not claim that they are adjectives semantically). (ibid., p198)

Slavic languages. Corbett (1987) reports that, in Upper Sorbian for instance, prenominal possessives can be modified, just like their English counterparts:

(2.87) (taken from Corbett (1987), p303, ex (15))

> *mojeho   mužowa   sotra*
> my   husband's sister
> 'my husband's sister'   (UPPER SORBIAN)

Furthermore, they can be recursive:

(2.88) (taken from Cowper and Hall (2010), p4, ex (10))

> *našeho   nanoweho   bratrowe   dźěći*
> our   father's   brother's   children
> 'our father's brother's children'   (UPPER SORBIAN)

Therefore, the original observation that Bošković attributes to the adjectival nature of Serbian prenominal possessives does not extend to Upper Sorbian. Note however that there are two caveats here.

First, colloquial Upper Sorbian has been developing a definite article (even though literary Upper Sorbian has not). Hence we might be dealing with a DP-language (as pointed out in Cowper and Hall (2010) and attributed to Breu (2004)), in which case the modification of prenominal possessive is expected. However, there is another Slavic language that lacks definite articles altogether (colloquial and literary version) and it still allows the modification of prenominal possessives - Slovak:

(2.89) (taken from Cowper and Hall (2010), p12, ex (33))

> *našho   dobrého   susedova   záhrada*
> our   good   neighbor's garden
> 'our good neighbor's garden'   (SLOVAK)

Second, in his most recent paper, as already mentioned, Bošković says that he does not exclude the possibility that some D-like elements in NP-languages will exhibit some properties argued for DP-languages. Such a proposal however brings the following concern: if determiners of one type of languages (DP) can behave like determiners of another type of languages (NP), then what are the differences in syntactic and categorial treatment of determiners of DP- and NP-languages based on? Furthermore, what are syntactic implications behind these 'exceptional' behaviors? In particular, are Slovak prenominal possessives not NP-adjoined since they allow modification? Similar point is made about prenominal possessives of Serbian timočko-lužnički dialect (Stanković (2013)). This dialect has definite articles and is hence supposedly a DP-language. The prenominal possessives however cannot be modified, unlike their English counterparts. Again, the question is what is the status of these elements given their NP-language-like behavior?

(2.90) ((2.90b) taken from Stanković (2013), ex (7c))

a) *my friend's dog*

b) **moe drugarovo kuče*
my friend.POSS dog
'my friend's dog'   (TIMOČKO-LUŽNIČKI SERBIAN)

These questions certainly need to be answered if the syntactic and categorial differences proposed for determiners in DP- and NP-languages are to be preserved. Given all the data discussed above, I conclude that the ban on modification of prenominal possessives cannot be taken as a reflex of their adjectival behavior. First, the ban relates to the derivational restriction concerning the complexity of the noun involved. Second, Serbian prenominal possessives exhibit properties that ordinary adjectives do not: they can be formed only from nouns that are singular and specific, they can control personal pronouns and, they can be antecedents of reflexives. Finally, the ban on modification of prenominal possessives varies across DP- and NP-Slavic languages, which questions the validity of the original claim.

To sum up, in this section I examined specific proposals made about Serbian determiners, which are presented as evidence for their adjectival treatment by the proponents of the Parameterized DP-Hypothesis. The morphological characteristics: gender, number and case agreement as well as partial case paradigm are shown to have different implications in different languages: in Serbian they should indicate the adjectival nature of determiners but in Spanish, Brazilian Portuguese and Greek they should not. Such a fallacy shows that the argument built on the morphological behavior is feeble. Serbian copular construction data are shown to be inconclusive and/or involve NP-ellipsis with some possessives and demonstratives while quantifiers are excluded from this structure. The stacking phenomenon is discussed cross-linguistically and it has been shown that both English and Serbian determiners can stack while there is some variation as to what elements can or cannot co-occur within a language. The same is found to be the case in other languages. The conclusion is then that the determiners' stacking possibility does not relate to their adjectival behavior and DP/NP differences but rather stems from the language-specific possible co-occurrences of Ds and possessives and available partitive structures. The argument that Serbian determiners allow freer word order than their English counterparts is disputed, showing that there is a minimal difference between the two. Further, it is shown that Macedonian and Serbian determiners allow almost exactly the same word orders and crucially that Macedonian determiners allow freer orders than English determiners, even though both of the languages are DP-languages. The ban on modification of prenominal possessives is shown to pertain to the general restriction on prenominal possessive formation. Further, a number of non-adjectival characteristics of prenominal possessives are discussed, showing that these elements largely do not share adjectival properties. Cross-Slavic and cross-DP-language differences in (dis)allowing prenominal possessive modification are also discussed, raising the question of how these differences pertain to the argued categorial distinctions and divergent syntactic positions of these elements.

Taking all the data into consideration, I conclude that Serbian determiners exhibit some adjective-like properties, some of which are also detected among determiners of DP-languages, in particular English and Macedonian. English and Serbian determiners do not differ as they are claimed to by the proponents of the Parameterized DP-Hypothesis while Macedonian and Serbian determiners behave almost exactly the same. These two findings hence cast doubt on the original observation regarding Serbian determiners and the properties associated with them that supposedly distinguish them from English determiners as well as determiners from other DP-languages.

2.3   Determiners as NP-Adjuncts: Binding Data

The argument supporting the proposal that the adjectival properties of Serbian determiners in fact indicate their syntactic position comes from binding data: on a par with adjectives, Serbian determiners are NP-adjoined (Despić (2009), Despić (2011), Despić (2013)). The main point of departure is the observation that Serbian and English prenominal possessives differ in their binding possibilities. The claim is that English prenominal possessives (*his* and *John's* respectively in (2.91)) do not c-command the R-expression (*John*) and pronoun (*him*) while their Serbian counterparts do, resulting in Condition C and B violations, (2.92):[46]

---

[46]The pronoun used in the Serbian example (2.92b) is a strong/full pronoun, *njega* 'him'. Note that it has a corresponding weak/clitic form, *ga* 'him'. Despić claims that the use of strong vs. weak form of a pronoun does not interfere with the acceptability of the relevant coreference (Despić (2009), p22, ft. 4). In particular, he says that with the use of a clitic, 'the sentence somehow 'improves' (but still stays ungrammatical)' (ibid.). He ascribes the observed improvement to the cross-linguistic observation that strong pronouns generally introduce new referents. Accordingly then, the strong pronoun in (2.92b) cannot refer to an already introduced referent, namely the possessive (*Markov* 'Marko's'). Despić claims that this observation in addition to the violation of Condition B (according to his theory) makes the relevant example 'more ungrammatical' when a strong pronoun is used (rather than a weak one).
I informally consulted some native speakers of Serbian to check the judgments with respect to strong vs. weak pronoun and I got mixed results. For some speakers, coreference is possible when a pronoun surfaces in its weak form while for the others, it is as unacceptable as it is in its strong form. A controlled study is needed to settle the issue, which I leave as a future project.

(2.91) (taken from Bošković (2009a), p196, ex (19))

    a) *His*_i *father considers* *John*_i *highly intelligent.*

    b) *John*_i*'s father considers* *him*_i *highly intelligent.*

(2.92) (taken from Bošković (2009a), p196, ex (20))

    a) **Njegov*_i *otac*   *smatra*   *Marka*_i *veoma* *pametnim.*
       his   father consider Marko   very   intelligent
       'His father considers Marko very intelligent.'   (SERBIAN)

    b) **Markov*_i *otac*   *smatra*   *njega*_i *veoma* *pametnim.*
       Marko's father consider him   very   intelligent
       'Marko's father considers him very intelligent.'

The binding differences presented above are argued to stem from the differences in nominal structures, DP vs. no-DP in English and Serbian respectively. The argument is situated in Kayne's Antisymmetry approach, according to which specifiers are adjuncts and following the definition of c-command as given in (2.93) below, they c-command out of the category they are adjoined to or are specifiers of:

(2.93) X c-commands Y iff X and Y are categories, X excludes Y and every category that dominates X dominates Y (X excludes Y if no segment of X dominates Y).
(taken from Despić (2011), p42, ex (6))

Hence, if English possessives are, as standardly assumed, specifiers of DP, they are predicted to be able to c-command out of that DP, incorrectly rendering the sentences in (2.91) to be unacceptable under the co-referential readings. To resolve this problem, Kayne (1994), following Szabolcsi (1983), assumes that English possessives are located in SpecPossP, which is dominated by a DP.[47] Consequently, English possessives cannot c-command outside the DP.

---

[47]Kayne also makes an assumption that the Spec position of the DP dominating PossP contains an operator responsible for operator-variable binding of pronouns that is irrelevant to Binding.

(2.94) (adapted from Despić (2013), p244, ex(9))

```
                        TP
               _____/  _____
              /                    \
            DP                      T'
          /    \                  /    \
(operator      DP               T       VP
 position)   /    \                    /  \
           D      PossP          considers him very intelligent
                 /    \
              [NP]    PossP'
              /  \    /    \
            John  's   NP
                      /  \
                    father
```
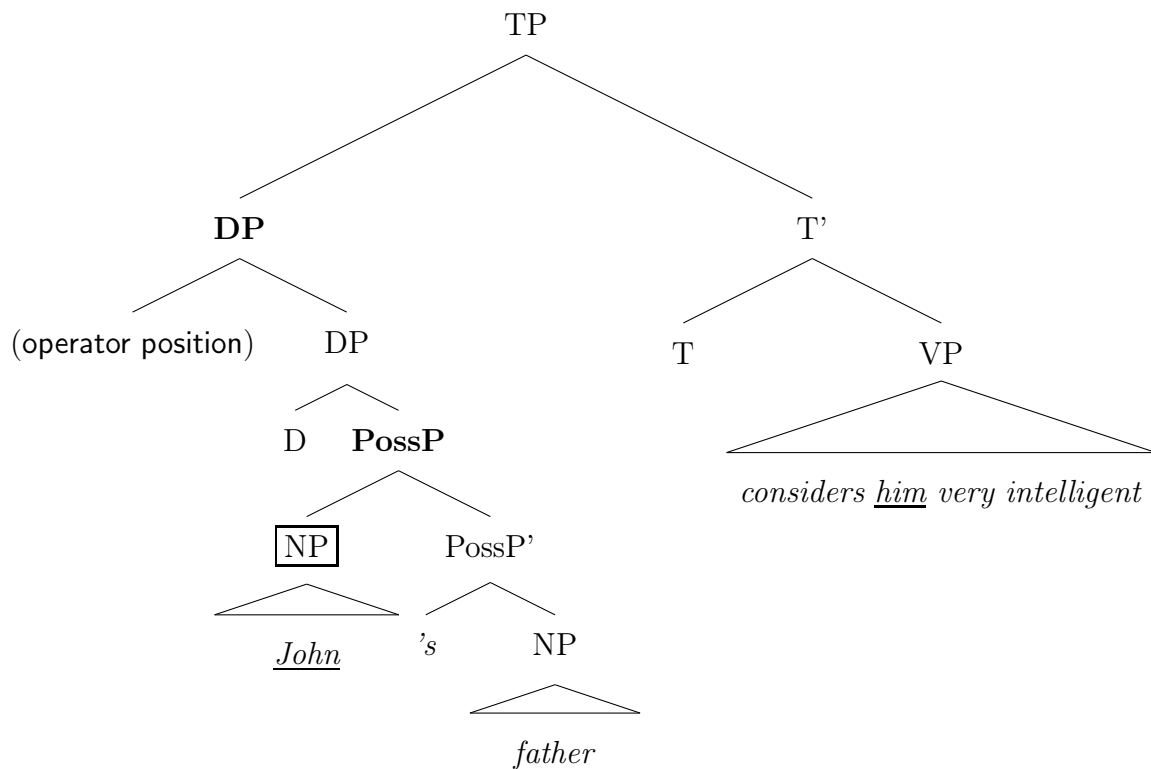
Serbian possessives, on the other hand, are assumed to be NP-adjoined and there is no DP. Hence, the possessives c-command out of their position, rendering the sentences in (2.92) unacceptable with the relevant coreferential readings.

(2.95)

```
                    TP
            _____/  _____
           /                  \
          NP                   T'
        /    \               /    \
      [XP]    NP           T        VP
      /  \    /  \                 /  \
   Markov   otac          smatra njega veoma pametnim
   Marko's  father        considers him very intelligent
```

91
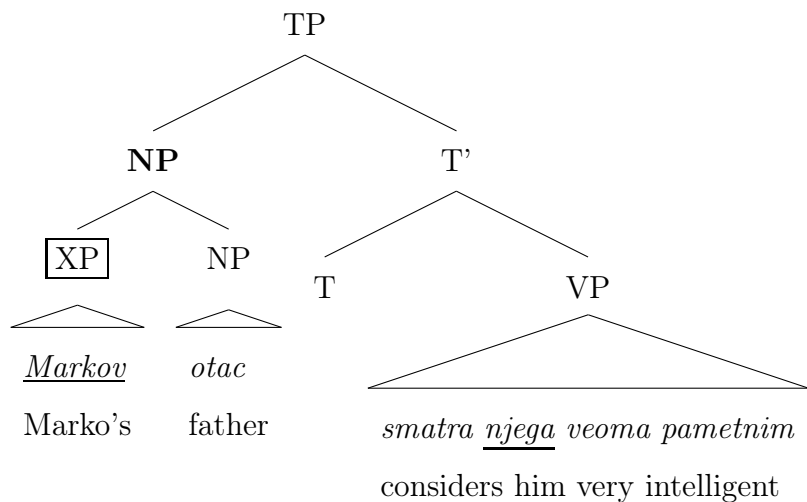
Such a proposal thus captures the binding differences observed between the two languages. The central claim is that the two languages have different nominal structure: DP vs. no-DP and that the possessives appear in different positions, as Specs of PossP or NP-adjuncts.

To further strengthen his argument, Despić notices that the coreference remains impossible in Serbian even if demonstratives or other agreeing D-like elements are added in the structure, as shown in (2.96a) and (2.96b) respectively below. In other words, the observation that these elements do not interfere with the c-command relation between the possessive and the R-expression or the pronoun is taken to indicate that these elements are also NP-adjoined.[48] [49] If they were DPs, the c-command relation should be disrupted since the DP would block the possessive from c-commanding out of it (on a par with English DP above PossP).

(2.96) (taken from Bošković (2009a), p196, ex (21))

  a) *__Ovaj__ _njegov_$_i$ _prijatelj_ _smatra_ <u>_Marka_$_i$</u> _veoma_ _pametnim._
     this   his   friend   consider Marko   very   intelligent
     'This friend of his considers Marko very intelligent.'   (SERBIAN)

  b) *__Mnogi__ <u>_Dejanovi_$_i$</u> _prijatelji_ _su_   _posjetili_ <u>_njega_$_i$</u>.
     many   Dejan's   friends   AUX   visited   him
     'Many of Dejan's friends visited him.'

However, if a non-agreeing quantifier is used in the structure, the coreference is possible, (2.97). The crucial assumption is that non-agreeing quantifiers project QP, located above NP. So, on a par with English DP, Serbian QP blocks the relevant c-command relation.

---

[48]These data are also taken to dismiss the 'weaker' version of the Universal DP-Hypothesis, according to which DP in Serbian is present only when there is an overtly realized Spec of DP, i.e., demonstrative.

[49]Despić (2013) also shows that the adjunct-based approach he is advocating is superior to the Cinquean cartographic approach since no binding differences are found when an ordinary adjective co-occurs with a possessive.

(2.97) (taken from Despić (2011), pp85-86, exs (82) and (84) respectively)

    a) ***Mnogo*** *Kusturičinih*_i *prijatelja je kritikovalo njega*_i.
        many   Kusturica's friends AUX criticized him
        'Many of Kusturica's friends criticized him.'   (SERBIAN)

    b) ***Mnogo*** *njegovih*_i *prijatelja je kritikovalo Kusturicu*_i.
        many   his   friends AUX criticized Kusturica
        'Many of his friends criticized Kusturica.'

Assuming the framework adopted for this proposal, namely that adjuncts c-command out of the category they are adjoined to, let me point out to several problematic data sets that such a theory of binding faces.[50]

2.3.1 Serbian NP Complements

Despić's theory predicts that the binding possibilities should change if the NP containing a possessive is 'buried' inside another XP (on a par with the English PossP buried inside DP). A potential structure of this kind is an NP taking an NP argument. Note that Despić's proposal builds on Bošković's view of Serbian nominal structure according to which an NP

---

[50]Note that the theory Despić proposes predicts that reflexives, when used instead of pronouns, should be able to have possessives as their antecedents; i.e. possessives are adjoined to NPs and reflexives are in their c-command domain. This is, however, contrary to the fact:

(i) **Kusturičin_i film je razočarao sebe_i.*
   Kusturica.POSS movie AUX disappointed self
   *'Kusturica's film disappointed himself.'   (SERBIAN)
   (taken from Despić (2011), p49, ex (40))

In order to account for the observed binding facts as far as reflexives are concerned, Despić proposes that the conditions on reflexive binding apply cyclically at the level of phase, which in the case of Serbian is vP (since it lacks DP). Consequently then, the reflexive is bound by the external argument of a vP phase, a subject (and not the possessor of the subject, i.e., the adjunct of the subject). Therefore, the c-command relation between the possessive and the reflexive is not a sufficient condition for A-binding: one either has to assume that anaphors can be bound only from A-positions or that anaphors (underspecified for their phi-features), are bound by an argument that enters Agree (the argument in Spec-vP and not its adjunct), (Despić, p.c.). See Despić (2009), Despić (2011) and Despić (2013) for details.

takes an NP argument when expressing possessive relations, such as *prijatelj njegove majke* 'a friend of his mother' (Bošković (to appearb)):

(2.98) (adapted from Bošković (to appearb), p10, ex (34a))

[_{NP} [_{N'} *prijatelja* [_{NP} *njegove* [_{NP} *majke*]]]]
            friend   his   mother

'a friend of his mother'   (SERBIAN)

The Serbian structure in (2.99) matches the English structure in (2.100) (irrelevant structure is suppressed):

(2.99)

94

(2.100)

```
                              TP
                       ╱            ╲
                     DP              T'
                  ╱      ╲         ╱    ╲
                 D      PossP     T     VP
                       ╱    ╲          ╱  ╲
                     [NP]    ...    ... John ...
                    ╱    ╲
                  his   mother
```
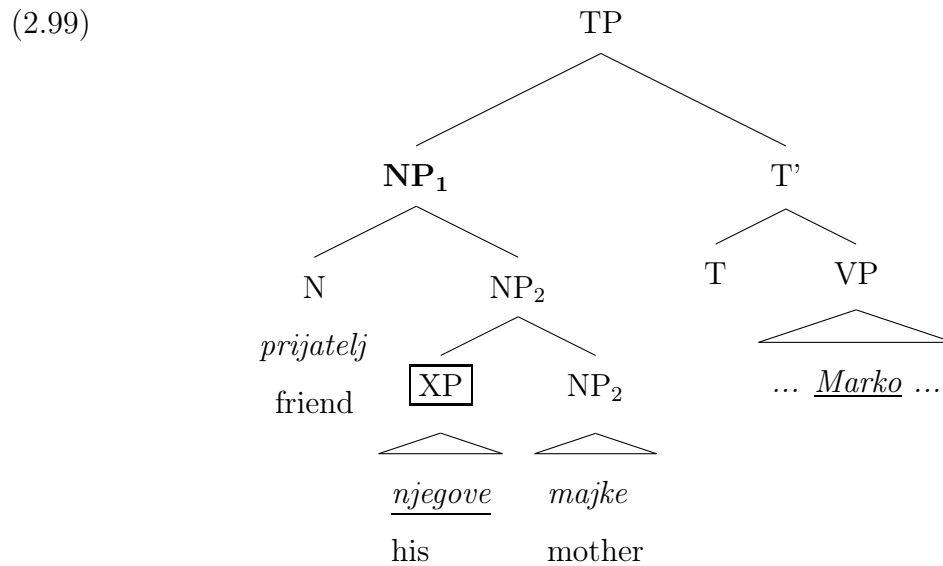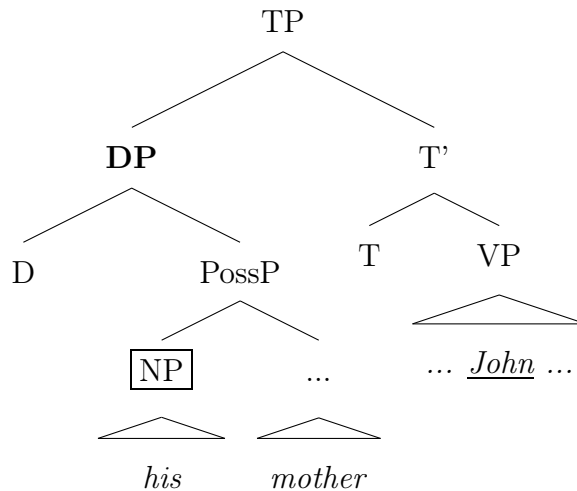
In such a structure, according to the theory argued for in Despić (2013), Serbian NP_1 (*prijatelj* 'friend') should block an adjunct (possessive) of the NP_2 from c-commanding out of the NP_2, just like the English DP blocks the specifier (possessive) of the PossP from c-commanding out of the DP. The prediction is then that these structures should be acceptable under coreferential readings. Neither Condition C nor B should be violated. This prediction is however not borne out.

(2.101)   a) *[NP *Prijatelj* [NP *njegovog*$_i$ *oca*]] *smatra* <u>*Marka*$_i$</u> *veoma* *pametnim.*
              friend   his   father consider Marko   very   intelligent
          'His father's friend considers Marko very intelligent.'

      b) *[NP *Prijatelj* [NP <u>*Markovog*$_i$</u> *oca*]] *smatra* <u>*njega*$_i$</u> *veoma* *pametnim.*
              friend   Marko's   father consider him   very   intelligent
          'A friend of Marko's father considers him very intelligent.'

                                                                              (SERBIAN)

The binding possibilities are exactly the same as the ones in which the upper NPs are not present (cf. (2.92)). These data hence pose a challenge to the theory proposed by Despić.

2.3.2 Coreference Across Sentences

Another challenge to Despić's theory comes from the observation that the relevant coreference is impossible cross-sententially. That is, coreference is impossible even if an antecedent and R-expression/pronoun are not in the same sentence.[51]

(2.102) a) *$Njegov_i$ prijatelj je pao. $\underline{Marko_i}$ mu je pomogao.
               his   friend   AUX fell Marko   him AUX helped
          'A friend of his$_i$ fell. Marko$_i$ helped him.'

     b) *$\underline{Markov_i}$ prijatelj je pao. $\underline{On_i}$ mu je pomogao.
           Marko's   friend   AUX fell he   him AUX helped
          'Marko$_i$'s friend fell. He$_i$ helped him.'

(SERBIAN)

These data hence clearly show that whatever is responsible for disallowing the coreferential interpretations can certainly not be the absence of a DP in the nominal domain, adjunction of a possessive to an NP and the adopted definition of c-command. Further investigation of the phenomena is needed to track the relevant data.

2.3.3 Macedonian and Bulgarian Binding Data

An additional challenge to Despić's proposal comes from Bulgarian and Macedonian data. The two languages are argued by the proponents of the Parameterized DP-Hypothesis to be DP-languages. Hence, their binding potentials should pattern together with the ones

---

[51]Note that the pronoun in (2.102b), *on* 'he', is in nominative case. Serbian is a *pro*-drop language and nominative marked pronouns are usually omitted (unless used emphatically or in coordinated phrases). Hence, one could argue that the use of the overt nominative case-marked pronoun in (2.102b) interferes with the binding facts. In order to show that this is not the case, I provide an example with a dative case-marked pronoun. Dative case-marked pronouns are not subject to the *pro*-drop parameter. As the example shows, there are no differences in the binding potentials.

(i) *$\underline{Markov_i}$ prijatelj je pao. Zavrtelo $\underline{mu_i}$ se u glavi.
     Marko.POSS friend AUX fell span him REFL in head
     *'Marko$_i$'s friend fell. He$_i$ got dizzy.'   (SERBIAN)

observed for English. Quite contrary, both Macedonian and Bulgarian actually pattern together with Serbian. Macedonian does not allow the coreferential interpretation in neither (2.103a) nor (2.103b).[52] [53]

(2.103)   a) *$Njegoviot_i$ $prijatel$ go_i $smeta$ $\underline{Jovan_i}$ za $mnogu$ $pameten.$
            his   friend   him.CL consider Jovan   for   very   intelligent
            'His friend considers Jovan very intelligent.'

        b) *$\underline{Jovanoviot_i}$ $prijatel$ go_i $smeta$ $\underline{nego_i}$ za $mnogu$ $pameten.$
            Jovan's   friend   him.CL consider him   for   very   intelligent
            'Jovan's friend considers him very intelligent.'

(MACEDONIAN)

If Macedonian possessives are specifiers of PossP that is a complement of a DP, on a par with their English counterparts, the c-command relation between the possessive and the R-expression in (2.103a) and the pronoun in (2.103b) should be disrupted, obviating Condition C and B violations. This is contrary to the fact. The coreferential interpretation of the possessives and the R-expression and pronoun is disallowed. Such a behavior calls for explanation.[54]

Bulgarian shows the exact same behavior i.e., it does not allow coreferential interpretation in either (2.104a) or (2.104b).[55] [56] [57]

---

[52]Macedonian binding data are from Ilina Stojanovska, Andrijana Pavlova and Kiril Ribarov, p.c.

[53]Macedonian requires object clitic doubling when the object is definite; hence, there is an object clitic in these examples.

[54]In order to express the above discussed coreferential facts, Macedonian uses the structure with preposition, na X 'of X':

(i) $Prijatelot$ na $\underline{Jovan_i}$ go_i $smeta$ $\underline{nego_i}$ za $mnogu$ $pameten.$
    friend of Jovan him.CL considers him for very intelligent
    'A friend of Jovan$_i$ considers him$_i$ very intelligent.'   (MACEDONIAN)

[55]The data are from Angelina Markova, p.c.

[56]If the prepositional phrase na X 'of X' is used instead of a possessive adjective, the coreference is possible (just like it was the case in Macedonian):

(i) $Prijateljat$ na $\underline{Ivan_i}$ go_i $smjata$ za $mnogo$ $inteligenten.$
    friend.the of Ivan him consider for very intelligent
    'A friend of Ivan$_i$ considers him$_i$ very intelligent.'   (BULGARIAN)

[57]Note that Bulgarian, unlike Macedonian, does not have clitic doubling in the relevant examples.

(2.104) a) *_Negovijat__i _prijatel smjata_ <u>_Ivan__i</u> _za mnogo inteligenten._
         his   friend   consider Ivan for very   intelligent
         'His friend considers Ivan very intelligent.'   (BULGARIAN)

       b) *<u>_Ivanov__i</u> _prijatel_ <u>_go__i</u> _smjata   za   mnogo inteligenten._
          Ivan   friend   him consider for very   intelligent
          'Ivan's friend considers him very intelligent.'

Furthermore, in both Macedonian and Bulgarian, the coreference remains impossible
in the presence of a demonstrative (2.105a), (2.106a) or a quantifier (2.105b), (2.106b,c).
This is quite puzzling given that demonstratives and quantifiers are generally assumed to be
instantiations of D in DP languages.

(2.105) a) *__Toj__ _njegov__i _prijatel go__i   _smeta_   <u>_Jovan__i</u> _za mnogu pameten._
            that his   friend   him.CL consider Jovan for very   intelligent
            'That friend of his considers Jovan very intelligent.'

       b) *__Mnogu__ <u>_Jovanoviot__i</u> _prijatel go__i   _smeta_   <u>_nego__i</u> _za mnogu_
          many   Jovan's   friend   him.CL consider him   for very
          pameten.
          intelligent
          'Many of Jovan's friend considers him very intelligent.'

                                                                     (MACEDONIAN)

(2.106) a) *__Tozi__ _negov__i _prijatel smjata_   <u>_Ivan__i</u> _za mnogo inteligenten._
            this his   friend   consider Ivan for very   intelligent
            'This friend of his considers Ivan very intelligent.'

       b) *__Mnogo__ _ot_ <u>_negovite__i</u> _prijateli posetiha_ <u>_Ivan__i</u>.
          many   of his   friends   visited   Ivan
          'Many of his friends visited Ivan.'   (BULGARIAN)

       c) *__Vsichkite__ <u>_negovi__i</u> _prijateli posetiha_ <u>_Ivan__i</u>.
          all   his   friends   visited   Ivan
          'All of his friends visited Ivan.'

98

Macedonian and Bulgarian data show that the same binding differences observed for English and Serbian hold for English and Macedonian/Bulgarian. The former are argued to relate to the nominal structures of the two languages involved (DP vs. NP). The latter, however, cannot relate to the nominal structures involved since all three languages are arguably DP languages. These data hence cast serious doubt on the argument that one key factor in explaining the binding differences between English and Serbian (unless the argument does not spread to the entire class of DP vs. NP-languages) stem from nominal structures of the languages involved.

Given all the issues discussed above that Despić's theory of binding faces, his argument for NP-adjunction calls for further explanation. We have seen that Serbian poses challenges to the theory: binding outside of the N-complements as well as cross sentential data. Under the proposal argued by Despić, the binding possibilities found in these structures are unaccounted for and contradict the predictions of the proposal. Further, cross-linguistic investigation of the proposal brings additional challenges, unless the proposal is exclusively applicable to English and Serbian and is not meant to extend to DP- and NP-languages. Macedonian and Bulgarian data certainly cast doubt on the relevance of the relation drawn between the nominal structure and the binding potentials within a language. I hence conclude that the argument provided by Despić fails on empirical grounds and as such does not constitute strong evidence for the NP-adjunction of determiners in Serbian.

2.4 Summary

In this chapter, I evaluated the claim that Serbian determiners are categorially not Ds given their adjective-like properties and that their binding potentials indicate that they are NP-adjoined. The first two sections of the chapter focus on adjective-like properties argued to indicate the non-D status of Serbian determiners. The third section of the chapter

investigated the structural position argued for Serbian determiners (NP-adjuncts) based on binding data.

In the first section, I examined syntactic environments uniquely argued to pertain to adjectives cross-linguistically and tested how they extend to Serbian determiners, elements argued to syntactically behave like adjectives. The syntactic environments we looked at include attributive modification and complementation of degree heads. The question regarding attributive modification is shown to be complex and to involve both syntactic and semantic issues. Though the semantic issue has not been addressed, it has been shown that both Serbian and English determiners can appear in the relevant syntactic environment, contradicting the claim of the Parameterized DP-Hypothesis. Regarding the complementation of degree heads, we saw that Serbian adjectives appear in this syntactic position whereas determiners cannot (though there is one exceptional determiner: *mnogo* 'many'). The same finding holds for English. The conclusion drawn from these data is that Serbian and English determiners do not differ in any relevant respect and that Serbian determiners do not exhibit relevant adjectival properties.

In the second section of the chapter, I examined specific proposals made about Serbian determiners. These include (a) their morphological characteristics, (b) their ability to be used as predicates in copular constructions, (c) their ability to stack, (d) a relatively free word order in which they can appear and, (e) the ban on modification of pre-nominal possessives. I scrutinized relevant Serbian data but I also presented data from DP-languages, focusing primarily on English and Macedonian.

The morphological characteristics involve two agreement phenomena and noun-like properties detected for some of the determiners. The former are shown to be inconsistent as far as their cross-linguistic indications are concerned and, inconclusive given their partial nature. The latter (noun-like properties) further strengthens the view that morphological characteristics of determiners are not convincing in determining their adjectival status since some of these elements exhibit morphological characteristics of nouns rather than adjectives.

The ability of Serbian determiners to occur in a typical adjectival position: a predicate position in a copular construction is similarly shown to be inconclusive regarding their adjectival properties. First, the core data used for this argument involve the use of Serbian possessives, which are shown to be syncretic when used as prenominal possessives and possessive pronouns. In other words, the possessive element appearing in a copular construction is morphologically indistinguishable from the possessive element appearing pre-nominally. Syncretism of this kind is shown to exist in other languages: Macedonian and some English possessives. English nominal possessives as well as pronominal possessives syncretic in their form when used pre-nominally and in copular construction show that Serbian possessives do not differ from English possessives in relevant respect. The ability of demonstratives to occur in a copular construction is related to the NP-ellipsis phenomenon, where the difference between Serbian and English amounts to the difference in *one*-support mechanism involved. Quantifiers, unlike possessives and demonstratives, cannot be used in copular constructions (though there are some exceptions in both Serbian and English), which is direct counter evidence for the adjectival status based on copular construction data.

The stacking of Serbian determiners has been used as another piece of evidence in arguing for their adjectival behavior. The cross-linguistic research presented above show that such a phenomenon exists in a number of DP-languages: Hungarian, Italian, Macedonian, Bulgarian, German, English. It is observed that languages vary in allowing prenominal possessives to co-occur with demonstratives/definite articles and that there is a wide range of possibilities of the co-occurrence of other determiners. In other words, Serbian is shown not to be in any way different in this respect than other languages (in particular, DP-languages). The variations observed are argued to be the reflex of the following: (a) possessives are arguments of Ds (following Larson (1991)) and languages differ in allowing the D head to be overt and, (b) stacking of determiners, other than possessives, amounts to the underlyingly partitive structure in which Ps can be transparent: $[_{dP} [_{NP} \text{ONE(S)} [_{PP} \text{P DP}]]]$. If the partitive P is transparent, it has uninterpretable unvalued case feature (on a par with Spanish DOM)

and, if it is overt, it has interpretable unvalued case feature. The presence of the transparent partitive P accounts for the cross- and intra-linguistic variations observed.

The relatively unconstrained word order of Serbian determiners is provided as another argument indicative of their adjectival nature. In fact, the principal argument is that Serbian determiners allow freer word order than English determiners. The truth of the matter is that Serbian determiners appear in a rather constrained word order, presented in the following hierarchy: $\forall$ > DEM > Q > INDEFDET > POSS/ADJ. English determiners roughly follow the same hierarchy; the only difference between Serbian and English is that unlike Serbian, English possessives cannot permute their order with ordinary adjectives and the universal quantifiers cannot be preceded by demonstratives. It is only to this extent that Serbian and English determiners differ in their ordering possibilities. Further, it has been shown that the order of Macedonian determiners patterns almost perfectly with their Serbian counterparts. Crucially, Macedonian possessives and ordinary adjectives, unlike English ones, can permute the order. Hence, Macedonian determiners and Serbian determiners show freer word order than the English ones. The claim that the adjectival status of determiners follows from the word order observations entails that Macedonian determiners are adjectives or adjective-like elements as well. The observation that there are, in fact, only a few word order differences among Serbian, English and Macedonian determiners cast serious doubt on the relevance of the word order as diagnostics in determining the adjectival status of the elements participating in it.

Finally, the ban on modification of prenominal possessives is shown to relate to the derivational restriction imposed on prenominal possessives: they can only be derived from nouns that are not modified. Furthermore, it has been shown that prenominal possessives are subject to a set of rather peculiar formation restrictions that they do not share with adjectives. They have also been shown to be able to control pronouns and to be antecedents of reflexives. Such a behavior is noun-like rather than adjective-like. Furthermore, the ban on prenominal possessive modification varies across Slavic languages and DP-languages: while

some allow it some disallow it. Such cross-linguistic differences call for explanation regarding the level of overlap of behavior among determiners from DP and DP-less languages.

In the third section of the chapter, I examined the binding data used to argue that Serbian possessives, demonstratives and agreeing quantifiers are NP-adjoined whereas non-agreeing quantifiers project their own QP. The differences in binding potentials between English and Serbian are argued to relate to their nominal structures: DP vs. NP and the fact that English determiners are D heads or PossP specifiers whereas Serbian determiners are NP-adjoined (their category is left unspecified). I showed that this proposal faces several challenges: it wrongly predicts that the c-command outside of the N-complement position in Serbian and across sentences should be disrupted. Furthermore, the cross-linguistic investigation of Macedonian and Bulgarian binding potentials bring additional challenges to the proposal. The two languages, both arguably DP-languages, differ from English and behave like Serbian in the relevant respect. This is a rather surprising finding if the binding potentials are related to the nominal structures of languages: DP vs. NP and the syntactic positioning of determiners to DP/PossP vs. NP-adjuncts.

In conclusion, I have shown that Serbian determiners do not behave as described by the proponents of the Parameterized DP-Hypothesis. They do exhibit some adjective-like behavior but there are a number of characteristics associated with them that are not adjectival in any sense. The crucial question is whether the adjectival status which is true in a certain range of determiners can spread to the entire class. Based on the data presented above for Serbian determiners and determiners from a number of other languages, the answer seems to be negative. The adjectival character observed for some of the determiners cross-linguistically is rather exceptional and by no means exemplary of the whole class. Furthermore, Serbian determiners and determiners of DP-languages are shown to share many characteristics, contradicting the Hypothesis that the two either belong to a different category (A/X vs. D) or that they occupy different syntactic positions based on the differences in their behavior.

I have also shown that some of the properties related to Serbian determiners have been misrepresented as adjective-like. Furthermore, it has been shown that English and Serbian determiners often pattern in their behavior, contrary to the claim of the Parameterized DP-Hypothesis. In addition to that, Macedonian determiners are shown to almost perfectly match the behavior of their Serbian counterparts, which raises the question of the expected differences between DP- and DP-less languages and its relevance in determining the category of these elements among different types of languages. Finally, as far as the syntactic positioning of determiners in DP- and DP-less languages are concerned: the former are D heads[58] and the latter are NP-adjuncts, the proposal based on the binding data is shown to face some challenges. Serbian N-complements, cross sentential data and Macedonian and Bulgarian binding data do not conform to the predictions of the theory proposed.

The claim that Serbian determiners are not Ds but rather adjectives, they behave like adjectives or they are NP-adjuncts (with their category unspecified), as proposed by the proponents of the Parameterized DP-Hypothesis, has been systematically and consistently refuted in this chapter. Although it has been recognized that some similarities among determiners cross-linguistically exist, their implications, as proposed by the Parameterized DP-Hypothesis, are inconsistent for DP- and DP-less languages and as such, need to be re-examined.

---

[58]English possessives are argued to be specifiers of PossP in Despić (2011). Crucially, they are not NP-adjuncts.

Chapter 3

Left Branch and Adjunct Extraction

The Parameterized DP-Hypothesis argues that the presence/absence of a DP projection relates to the broader syntactic behavior of nominals in DP- and DP-less languages. Bošković provides numerous generalizations, all built on the premise that the differences in the nominal structures: DP in languages with definite articles and, the lack of DP in languages without definite articles, are directly responsible for the differences in the syntactic behavior of the nominals (Bošković (2008b), Bošković (2012b), Bošković (to appearb)).

(3.1) (taken from Bošković (2008b), Despić (2011), Bošković (to appearb))

    a) Only languages without articles may allow left branch extraction.

    b) Only languages without articles may allow adjunct extraction from T[raditional]NPs.

    c) Only languages without articles may allow scrambling.

    d) Languages without articles disallow N[egative]R[aising] (strict clause-mate NPI licensing under negative raising), and languages with articles allow it.

    e) Multiple WH-Fronting languages without articles do not show superiority effects.

    f) Only languages with articles may allow clitic doubling.

    g) Languages without articles do not allow transitive nominals with two genitives.

    h) Only languages with articles allow the majority reading of MOST.

i) Head-internal relatives are island-sensitive in article-less languages, but not in languages with articles.

j) Polysynthetic languages do not have articles.

k) Negative constituents must be marked for focus in article-less languages.

l) The negative concord reading may be absent with multiple complex negative constituents only in negative concord languages with articles.

m) Inverse scope is unavailable in NP languages.

n) Radical *pro*-drop (which is defined as productive argumental pro drop of both subjects and objects in the absence of rich verbal agreement) is possible only in article-less languages.

o) Number morphology may not be obligatory only in TNPs of article-less languages.

p) Elements undergoing focus movement are subject to a verb adjacency requirement only in languages with articles.

q) Possessors may induce an exhaustivity presupposition only in languages with articles.

r) Obligatory nominal classifier systems are available only in NP languages.

s) Second-position clitic systems are found only in languages without articles.

t) The sequence of Tense phenomenon is found only in languages with articles.

Even though the above listed syntactic implications seem remarkable, thorough cross- and intra-linguistic investigation has shown that some of them need to be re-examined (Rappaport (2001), Bašić (2004), Runić (2006), Bašić (2007), Pereltsvaig (2007b), Ivšić (2008), Caruso (2011), Bailyn (2012), Schoorlemmer (2012), Pereltsvaig (2013), Stanković (2013), Dubinsky and Tasseva-Kurktchieva (2014), Stanković (in press), i.a.). Bošković (2012a) himself actually says that the generalizations 'are still in the process of verification against additional languages. Future research will undoubtedly discover exceptions to most, if not all, generalizations [...]. However, if the generalizations turn out to be strong tendencies, that will still call for an explanation' (p179, ft.1). In this chapter, I will discuss two of the generalizations, both of which are concerned with extraction potentials out of nominals in

languages with and without articles: Left Branch Extraction (3.1a) and Adjunct Extraction (3.1b).

The generalization regarding the LBE is one of the most often cited and one of the oldest arguments offered to support the Parameterized DP-Hypothesis (though it has not gone unchallenged in the literature, as we will see below). It states that languages without articles may allow LBE out of nominals (illustrated with the Serbian example in (3.2a)) while languages with articles do not (illustrated with the English example in (3.2b)). Such a split in behavior receives a uniform account if DP acts as a barrier for extraction (Bošković (2005)). Therefore, if there is no DP in a structure, LBE may be possible and if there is DP in a structure, LBE is impossible (the specifics of the account are provided shortly).

(3.2)   a) ***Skupa**$_i$*   *je*   *Marko kupio*   [t$_i$ *kola*].
          expensive   AUX Marko bought   car
          'Marko bought an/the expensive car.'   (SERBIAN)

      b) *****Expensive**$_i$* *Marko bought* [*a* t$_i$ *car*].

The generalization on AE is roughly the same: languages without articles may allow AE (as the Serbian example in (3.72a) below shows) while languages with articles do not (as the English example in (3.72b) below shows). The differences in behavior are again related to the DP projection, which, when present, blocks the extraction.

(3.3)   a) ***S**   **kakvim**   **džepovima**$_i$* *je*   *Marko kupio*   [*pantalone* t$_i$]*?*
          with what.type pockets   AUX Marko bought   pants
          'Marko bought pants with what type of pockets?'   (SERBIAN)

      b) *****With what type of pockets**$_i$* *did Marko buy* [*pants* t$_i$]*?*

Therefore, according to the proponents of the Parameterized DP-Hypothesis, the presence / absence of the DP in a nominal structure of a language dictates its extraction potentials: if a language lacks a DP, LBE and AE may be allowed whereas if a language has a DP,

LBE and AE are disallowed. In this chapter, I will investigate these two types of extractions and show that the generalizations provided by the proponents of the Parameterized DP-Hypothesis need to be re-examined. In particular, I will first provide some general background on the two extraction phenomena followed by an overview of two accounts provided by the proponents of the Parameterized DP-Hypothesis: Corver (1992) and Bošković (2005). Then, I will present empirical data (some already reported and some new) from a range of languages that (a) challenge the proposal, (b) challenge the two generalizations and, (c) show controversies regarding the data the generalizations are built on (Rappaport (2001), Bašić (2004), Pereltsvaig (2007a), Pereltsvaig (2008), Hladnik (2009), Jurka (2010), Schoorlemmer (2012), Bailyn (2012), i.a.). After that, I will present new data from five acceptability judgment studies: three in Serbian, arguably a DP-less language, and two in Macedonian, a DP-language. The Parameterized DP-Hypothesis predicts that the two languages should behave differently as far as LBE and AE are concerned, given the differences in their nominal structures: no DP vs. DP respectively. As we will see below, the studies show that the generalizations concerning the differences of LBE and AE potentials in languages with and without articles, or at least in Serbian and Macedonian, and their direct relation to the presence/absence of a DP need to be re-evaluated. Finally, I will offer a preliminary account for the LBE facts assuming that DP is a universal category. I leave the AE phenomenon for future research.

The range of data to be discussed in this chapter is challenging not only for the accounts provided by the proponents of the Parameterized DP-Hypothesis but also for the accounts provided by the proponents of the Universal DP-Hypothesis. It brings complexity to the phenomena at hand and hence presents a challenge for any account. However, regardless of its complexity, it straightforwardly casts serious doubt on the correlation between the LBE and AE potentials of a language and its nominal structure (DP vs NP), as argued by the proponents of the Parameterized DP-Hypothesis. As such, it diminishes one of the strongest arguments provided for the Parameterized DP-Hypothesis and calls for further investigation.

3.1 Some Preliminaries: Description of the Phenomena

As it is often the case, Ross (1967) was the first one to observe that English and many other languages are subject to the constraint that he dubbed *Left Branch Condition*:

(3.4) No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule.
(taken from Ross (1967), p207)

The observation is illustrated with the following example:

(3.5) (taken from Ross (1967), p22, exs (2.15) and (2.16) respectively)

  a) *__Whose__ *did you find* __book__*?

  b) __Whose book__ *did you find?*

Ross, however, notes that the Left Branch Condition is not universal, i.e., there are languages in which the Condition is not in effect, such as Russian and Latin. In these languages, the possessive adjectives *čuju* and *cuius* 'whose' for instance (as shown in (3.6) and (3.7) respectively below) can be reordered out of their NPs so they are preposed in questions, while the nouns they modify are not at the front of the sentence.

(3.6) (taken from Ross (1967), p237, ex (4.246))

__Čuju__ *ty* *čitaješ* __knigu?__
whose you are.reading book
'Whose book are you reading?'   (RUSSIAN)

(3.7) (taken from Ross (1967), p237, ex (4.248))

__Cuius__ *legis* __librum?__
whose you.are.reading book
'Whose book are you reading?'   (LATIN)

Ross concludes his cross-linguistic discussion on the Left Branch Condition by saying that 'it is only in high inflected languages, in whose grammars the rule of Scrambling appears, that the Left Branch Condition is not operative, but it is not the case that it is not operative in all such languages. In Finnish, for example, sentences like (4.248) [here, example (3.7)] are not possible. At present, therefore, I am unable to predict when a language will exhibit the Left Branch Condition and when not.' (ibid. pp237-238)[1]

The cross-linguistic investigation into the phenomenon was taken further by Uriagereka (1988) and Corver (1992). These authors argue that the cross-linguistic differences Ross observed are not related to the amount of inflections languages have or scrambling, but rather to the presence of overt articles. In particular, they claim that the Condition is operative in languages with overt articles while it is not operative in languages without overt articles. Importantly though, unlike Ross, these authors refer to the phenomenon as Left Branch *Extraction* (LBE). In other words, the underlying assumption that they make is that a 'reordered element' in such constructions (using Ross's terminology) is *extracted* out of a noun phrase. Their cross-linguistic generalization is thus the following:[2]

(3.8) Left Branch Extraction is allowed only in languages that do not have overt articles.

Bošković (2005) took interest in this topic and started investigating the issue further. He adopted the view that the reordered elements are extracted and hence, uses the term 'Left Branch Extraction' to refer to the phenomenon. His investigation focuses on adjectival LBE only, 'ignoring possessor extraction. The reason for this is that several accounts of the AP LB ban in article languages leave a loophole for possessor extraction to occur in some languages of this type' (Bošković (2008b), p102, ft.2).

Bošković, following Corver (1992) and the work of Zlatić (1997), argues that the presence of overt articles corresponds to the presence of a DP projection in a language. However,

---

[1]Note that Bošković (to appearb) argues that there is a difference between colloquial and literary Finnish with respect to LBE: the former disallows LBE and the latter allows it. The difference is related to the corresponding presence/absence of the definite article.

[2]The generalization is taken from Bošković (2005), p3.

unlike Corver and Zlatić, Bošković attributes the presence of the DP projection exclusively to definite articles (Bošković (2009b)).[3] Hence, his version of the LBE generalization states that it is not the presence of *any* article in a language that correlates with the LBE prohibition but only the *definite* article.[4] The data supporting this modification of the LBE generalization come from three typologically diverse Slavic languages as far as articles are concerned: (a) Serbian, a language without definite articles that allows LBE (as shown in (3.9) below), (b) Bulgarian[5] and Macedonian, languages with definite articles that disallow LBE (as shown in (3.10) and (3.11) below) and (c) Slovenian, a language that has an indefinite article but lacks a definite article and allows LBE (as shown in (3.12) below).

(3.9)   (taken from Bošković (2005), p2, ex (2d))

Lijepe$_i$ *je vidio* [t$_i$ *kuće*].
beautiful is seen   houses
'He saw beautiful houses.'   (SERBIAN)

(3.10) (taken from Bošković (2005), p3, ex (4e))

***_Novata_**$_i$ *prodade Petko* [t$_i$ *kola*].
new-the sold   Petko   car
'Petko sold the new car.'   (BULGARIAN)

(3.11) (taken from Bošković (2005), p4, ex (5e))

***_Novata_**$_i$ *ja prodade Petko* [t$_i$ *kola*].
new-the it sold   Petko   car
'Petko sold the new car.'   (MACEDONIAN)

---

[3]Zlatić (1997) takes the presence of D projection to be 'related to the presence/absence of definite/indefinite articles in a given language.' (Ch.2, p1)

[4]Bošković does not formulate such a generalization; however, it is implied in his work since definite articles enable DP projections and DP projections block LBE.

[5]Uriagereka (1988) reported in his work that Bulgarian disallows LBE. Bošković (2005) shows that Macedonian patterns together with Bulgarian, as expected under the LBE generalization (3.8).

(3.12) (taken from Bošković (2009b), p70, ex (37e))

Visoke_i *je videl* [t_i *študente*].
tall   is seen   students
'He saw tall students.'   (SLOVENIAN)

Even though Bošković's research brought modifications to the LBE generalization as stated in (3.8) above, he still uses the non-modified version of it in his papers:

(3.13) (taken from Bošković (2012b), p349, ex (10a))

Only languages without articles may allow LBE.

The LBE generalization, whatever version of it, seemed appealing to a number of researchers since it was a discovery of an otherwise unrecognized close relation between two seemingly unrelated language phenomenon. As such, it triggered interest in finding further relations of the same type. One such discovery, very similar to the LBE generalization, is reported in Stjepanović (1998). She observes that the cross-linguistic variation on adjunct extraction (AE) out of nominal domain can be attributed to the presence/absence of articles as well. The following generalization emerged:

(3.14) (taken from Bošković (2012b), p349, ex (10b))

Only languages without articles may allow adjunct extraction from TNPs
[Traditional Noun Phrase].

The supporting data come from two Slavic languages: Serbian, a language without articles that allows AE and Bulgarian, a language with articles, which disallows AE.

(3.15) (taken from Bošković (2012a), p4, ex (12))

[**Iz   kojeg grada**]_i *je Petar sreo* [*djevojke* t_i]*?*
from   which city   is Petar   met   girls
'Petar met girls from which city?'   (SERBIAN)

(3.16) (taken from Bošković (2012a), p4, ex (14))

*[**Ot   koj   grad**]ᵢ *Petko   sreštna* [*momičeta* tᵢ]*?*
from   which   city   Petar   met   girls
'Petar met girls from which city?'   (BULGARIAN)

Here, again, Bošković assumes that it is only languages with definite articles that disallow AE since the DP category projects only if there are definite articles in a language. Slovenian is used again as a typologically relevant language to illustrate the point: Slovenian lacks definite articles but has indefinite articles and is reported in Bošković (2009b) to allow AE:

(3.17) (taken from Bošković (2009b), p69, ex(36e))

[**Iz   katerega   mesta**]ᵢ *je srečal* [*punce* tᵢ]*?*
from   which   city   is met   girls
'He met girls from which city?'   (SLOVENIAN)

In the next section, I will present two influential accounts offered by the proponents of the Parameterized DP-Hypothesis to track the observed cross-linguistic distribution of LBE (and AE).

3.2   DP Category and LBE / AE

To my knowledge, the most influential and mostly cited proposal that tracks the cross-linguistic generalizations of LBE and AE, as given in (3.8) and (3.14) above, is provided in Bošković (2003), Bošković (2005), Bošković (2008b), i.a.. His account builds on the premise that configurational structure dictates the extraction potentials in a language. That is, the presence/absence of the DP category directly relates to the LBE and AE potentials in a language: if there is DP in a language, extractions are impossible and if there is no DP, they may be allowed. As such, this account belongs to the Parameterized DP-Hypothesis cohort.[6]

---

[6]But note that Bošković (2008b) does 'not rule out the possibility that the differences [regarding all of his generalizations and hence, LBE and AE] could be captured in a uniform DP analysis (such accounts

Bošković's account builds on a previous account provided by Corver (1990) and Corver (1992). I will thus present Corver's analysis first, followed by Bošković's. The section is divided into two subsections accordingly.[7]

3.2.1 Corver (1992)

Corver (1992) developed an influential proposal arguing that the LBE generalization (3.8) has a syntactic explanation, where the cross-linguistic variation amounts to the presence/absence of the DP projection. Note that Corver addresses only LBE facts. Crucially though, he assumes that relevant structures involve <u>extraction</u>, i.e., a reordered element undergoes extraction.

His claim is that languages that project DP in their nominal structure do not allow LBE due to the violation of the Subjacency and the Empty Category Principle (ECP).[8] In particular, in a language that has a DP in a nominal structure, both DP and NP are barriers (following the Barriers theory of Chomsky (1986a)): NP is an inherent barrier since it is

---

generally ignore the above generalizations, which are the most serious problems for them).' However, he adds: '[g]iven how different the relevant phenomena are, a uniform DP account would likely rest on a number of separate stipulations regarding the nature of D in English/S[erbo]C[roatian], each tailored for a separate generalization.' (p107)

[7]There are a number of accounts provided by the proponents of the Universal DP-Hypothesis that track the differences in extraction potentials cross-linguistically. I will not present all of them here in detail though I will present data discussed in some of them in the later sections. All these proposals assume that DP category universally projects, i.e., they do not relate the configurational structure of a nominal to extraction potentials. The proposals can be divided into three types: (a) the first type assumes direct extraction out of a nominal (Rappaport (2001)) and argues that the observed differences in extraction potentials relate to the status of the Spec-DP position where in English-type languages D cannot attract elements to its Spec position (hence the extractions are impossible) and in Polish-type languages, Spec DP hosts possessors and agreeing attributive elements and unless the position is blocked, the extractions are possible, (b) the second type argues for remnant movement (Franks and Progovac (1994), Bašić (2004)), claiming that the differences relate to the phasehood of DP and ban on unbound intermediate traces and, (c) the third type argues for the move and copy of the whole phrase and partial interpretation of the copies (Pereltsvaig (2008), Pereltsvaig (2013), building on work of Fanselow and Ćavar (2002))) and proposes that the cross-linguistic differences in extraction potentials relate to scrambling, N-ellipsis and overt case marking in a given language. For the details of the third proposal, see section 3.5 below.

[8]Corver (1992) discusses extraction of possessives, determiners and adjectives. I will present only his account for adjectives since these are the elements that the LBE generalization largely builds on. As Bošković (2005), Bošković (2008b), and references cited in the papers show, there are languages with overt articles that allow possessor extraction.

not governed by a lexical category (DP) and, DP is a barrier since it immediately contains an inherent barrier, NP. Therefore, if one tries to extract an element out of such a nominal structure, two barriers are to be crossed, which would result in a violation of Subjacency.

(3.18) (adapted from Rappaport (2001))
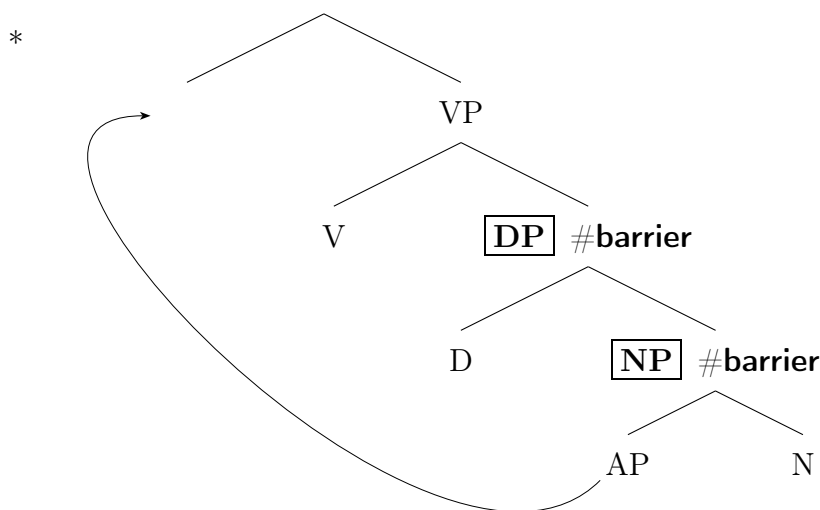
Corver (1992) further proposes that the Subjacency violation could be avoided if one assumes that APs are adjoined to NPs, pace Abney (1987) who claims that As take NPs as complements. However, such an option introduces another violation: ECP. Oversimplifying for our purposes, ECP would not be satisfied because (a) the trace of an AP would not be lexically governed (it is an adjunct) and, (b) it would not be properly antecedent governed since it would be separated by a barrier (NP or DP) from its antecedent (see Corver (1990) for details).

On the other hand, Corver claims, in languages that do not have a DP projection in their nominal structure, there are no such barriers for extraction. Since there is no DP in the structure, NP is governed by a lexical element, V, and therefore, NP is not a barrier. Consequently, if one wants to extract an adjective, no Subjacency violation arises. Furthermore, ECP is not violated either in such a structure: the trace of the extracted AP is antecedent governed since no barrier (NP is not a barrier) intervenes between the trace and its antecedent. LBE is hence predicted to be possible in languages without a DP projection.

115

3.2.2 Bošković (2005)

Building on the work of Corver, Bošković (2005) develops two analyses to track the LBE distribution across languages, making a direct correlation between the DP projection and the possibility of LBE. His main point of departure is that languages with articles project DP while languages without articles do not.[9] As Corver, Bošković assumes that the reordered elements are extracted from a nominal structure but unlike Corver, he provides an analysis (shown in 4.2.2.2. below) that tracks both the LBE and AE facts.

3.2.2.1 The AP/NP Analysis

One analysis offered in his 2005 paper argues that the cross-linguistic differences in LBE potentials relate to the structural positions of APs in DP and NP languages. In particular, in DP languages, As take NPs as their complements (following Abney (1987)) while in NP languages, APs are either in Spec-NPs or adjoined to NPs. Such structural differences explain the LBE facts: LBE is impossible in DP languages since the extraction of an adjective would involve movement of a non-constituent (AP is not a constituent to the exclusion of NP), as shown in (3.19).

(3.19) (taken from Bošković (2005), p21, ex (58))

$[_{\textbf{DP}}$ D $[_{\textbf{AP}}$ Adj $[_{\textbf{NP}}$ N $]]]$

On the other hand, no such problem arises in NP languages (adjectives are in Spec-NPs or adjoined to NPs), rendering LBE possible, as shown in (3.20).

(3.20) (taken from Bošković (2005), p21, ex (59))

$[_{\textbf{NP}}$ AP N $]$

---

[9]There is also a 'weaker' version of this: '[a] weaker version of the claim made in the paper would be that some languages without articles do not have DP' (Bošković (2008b), p101, ft.1).

Bošković however abandons this analysis in response to counter-arguments given in Pereltsvaig (2007b) and claims that the difference in structural position of adjectives of DP and NP-languages is not required to account for the LBE facts. His second analysis keeps the position of adjectives in DP and NP languages constant and still captures the LBE (and AE) facts (Bošković (2009a)).

3.2.2.2 The Phase Analysis

The second analysis Bošković provides is phase-based and unlike the previous one, it assumes that in both DP and NP languages, APs are adjoined to NPs. The cross-linguistic differences regarding the LBE potentials are attributed to the blocking nature of DP as a phase, following Chomsky (2001). Here again, the claim is that there is a direct correlation between the DP projection and the availability of LBE. The phase-based approach straightforwardly applies to the AE facts as well.

In order to deduce the two generalizations, Bošković takes the following theoretical assumptions to be true:

(3.21) DP projects only in languages with articles

Bošković adopts Corver's and Zlatić's assumption that only languages that have articles[10] project DP, while languages that do not have articles do not project DP.

(3.22) DPs are phases, NPs are not[11]

DPs are analyzed on a par with CPs, i.e. they are phases. As such, they are subject to the Phase Impenetrability Condition, as formulated in Chomsky (2001), p14:

[In the structure [$_{ZP}$ Z ... [$_{HP}$ α [H YP]]], with H and Z the heads of phases], the domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.

---

[10] As already mentioned, Bošković claims that D is associated only with definite articles. Hence, the presence of a definite article is required for DP to project.

[11] But note that in his later work, Bošković argues that NPs are phases as well. See below for further discussion.

That is, an element must move to the phase edge before it is moved beyond its phase. Hence, if an element is to be moved out of a DP phase, it has to move to its edge first (SpecDP).

(3.23) <u>Anti-locality hypothesis</u>

The following anti-locality hypothesis is adopted (Bošković (1994), Bošković (1997), Saito and Murasugi (1999)):[12]

> Each chain link must be at least of length 1, where a chain link from A to B is of length n if there are n XPs that dominate B but not A.
>
> (Bošković (2005), p16, ex (51))

In other words, the above stated condition rules out movement that is too short, i.e., the movement needs to cross at least one full phrasal boundary, XP.

(3.24) <u>Adjunction to NP</u>

Adjectives, as well as adjuncts, are adjoined to NPs. (Bošković (to appearb), p9)

Let us now see how the two generalizations regarding the cross-linguistic potentials of LBE and AE can be deduced from the above mentioned theoretical assumptions. The first assumption dictates that if a language has articles, it projects a DP, (3.21). Since DP is a phase, (3.22), any element that is to be extracted out of it must first move to its edge before moving out of DP (conforming to the PIC). In both LBE and AE cases, the element that is to be extracted is adjoined to NP, according to (3.24). If we move the NP-adjoined element to the Spec-DP, we violate the anti-locality hypothesis, (3.23): the movement does not cross one full phrasal boundary. In particular, the adjunct is dominated by a <u>segment</u>

---

[12]Bošković (2005) refers to the works of Abels (2003) and Ishii (1999), who claim that 'the relevant movement (movement from the position adjoined to the complement of X to SpecXP) is ruled out via Economy because it is considered to be superfluous. More generally, [...] when an element X is already located in the minimal domain of a head [...] it cannot move to another position in the minimal domain of the same head, which is the case with the movement we are interested in' (Bošković (2005), pp16-17).

of the NP it is adjoined to and not a full phrase. If, however, we directly extract an adjunct out of its base position within a DP to a position outside of it (assume that this is some position within a CP projection), we violate the PIC, i.e., the element moves out of the DP phase without first moving to its edge. Hence, the extraction of an adjunct out of a nominal domain that is headed by DP is blocked.

(3.25)

```
                        CP
                      /    \
              *PIC         TP
                          /  \
                    /  \ ───────
                 ...    DP    ...
                      /    \
           *anti-locality   D
                          /   \
                        D      NP
                              /   \
                      ┌─────────┐
                      │ ADJUNCT │  NP
                      └─────────┘
```
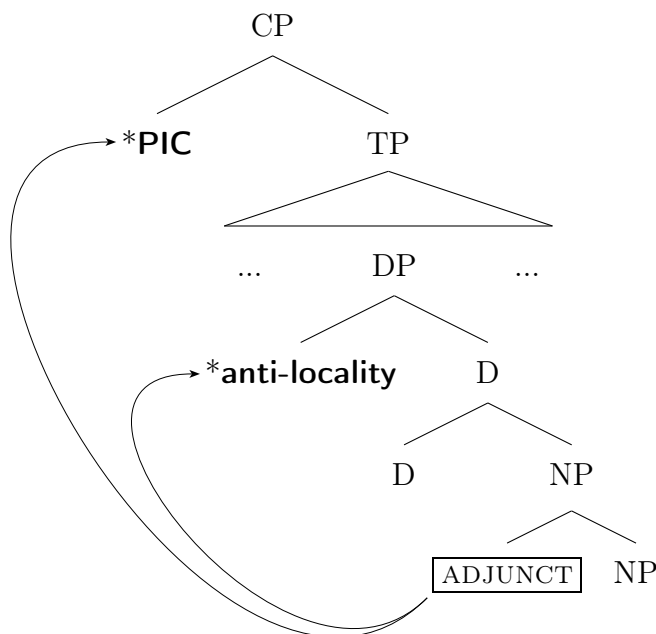
On the other hand, languages that do not have articles do not project a DP, (3.21). The projection that is assumed to exist in the nominal domain is an NP.[13] Following (3.22), NP is not a phase and hence, it is not subject to the PIC. That is, an element moving out of an NP does not need to move to its edge first. We can extract an adjunct out of an NP without violating the anti-locality hypothesis, (3.23): the adjunct crosses one full phrasal boundary when it moves. Hence, the LBE and AE are predicted to be licit in NP languages:

---

[13]See below for the discussion on other nominal projections above NP in languages without articles, as argued by the proponents of the Parameterized DP-Hypothesis (Bošković (2006a), Despić (2011)).

(3.26)
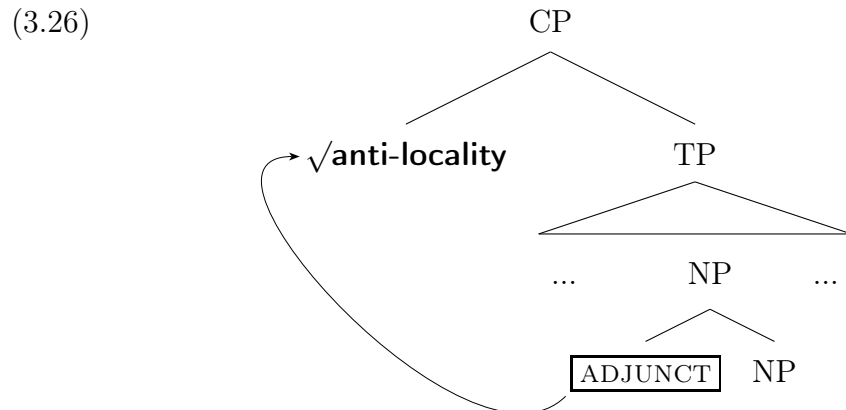
Such an account hence uniformly tackles the differences observed in LBE and AE potentials cross-linguistically.

3.2.2.3 Deep and N-Complement Extractions

Bošković, however, notes that LBE and AE are *not unrestricted* in languages that allow them (Bošković (2005), Bošković (to appearb)). He observes that it is impossible to extract an element out of <u>genitive</u> case-marked NP that is an N-complement. He refers to these cases as Deep LBE and Deep AE (illustrated in (3.27) and (3.28) respectively below).

(3.27) (taken from Bašić (2004), p32, ex (65ii))

> ***Kojeg**ᵢ *je   on pozajmio knjigu* [tᵢ *studenta*]*?*
> which   AUX he borrowed book   student.**GEN**
> 'Of which student did he borrow a book?'   (SERBIAN)

(3.28) (taken from Bošković (to appearb), p10, ex (36))

> ?*[**Iz   kojeg grada**]ᵢ *je   Petar kupio   slike   [djevojke tᵢ]?*
> from which city   AUX Petar bought pictures girl.**GEN**
> 'From which city did Petar buy pictures of a girl?'   (SERBIAN)

Note that for Bošković, genitive in nominal domain is a structural case (on a par with a verbal accusative) while all other cases are inherent. Hence, the ban on Deep LBE and

Deep AE out of <u>genitive</u> case-marked NPs is the ban on Deep LBE and Deep AE out of <u>structurally</u> case-marked NPs. He further argues that Deep LBE and Deep AE are licit if the NP out of which the extraction is taking place is <u>inherently</u> case-marked (illustrated in (3.29) and (3.30) below).

(3.29) (taken from Bošković (to appearb), p12, ex (39a))

?***Kakvom***$_i$ ga   je   uplašila pretnja [t$_i$ smrću]*?*
what.kind.of him AUX scared   threat   death.**INST**
'Of what kind of death did a threat scare him?'   (SERBIAN)

(3.30) (taken from Bošković (to appearb), p12, ex (41))

?[***Iz   kojeg grada***]$_i$ ga   je   uplašila pretnja [djevojkama t$_i$]*?*
from which city   him AUX scared   threat   girls.**INST**
'A threat of the girls from which city scared him?'   (SERBIAN)

Bošković claims that the same structural/inherent case difference observed for Deep LBE and AE actually holds for N-complement extraction. In other words, structurally case-marked N-complements (3.31) cannot be extracted from an NP while no such ban holds for inherently-case marked N-complements (3.32). He provides the following examples to support this claim.

(3.31) (taken from Bošković (to appearb), p11, ex (38a), citing Zlatić (1997))

?*[***Ovog studenta***]$_i$ sam pronašla knjigu [t$_i$].
this   student.**GEN** AUX found   book
'Of this student I found the book.'   (SERBIAN)

(3.32) (taken from Bošković (to appearb), p12, ex (40a), citing Zlatić (1994))

Čime$_i$ ga   je   *(Jovanova)* pretnja [t$_i$] *uplašila?*
what.**INST** him AUX Jovan's   threat   scared
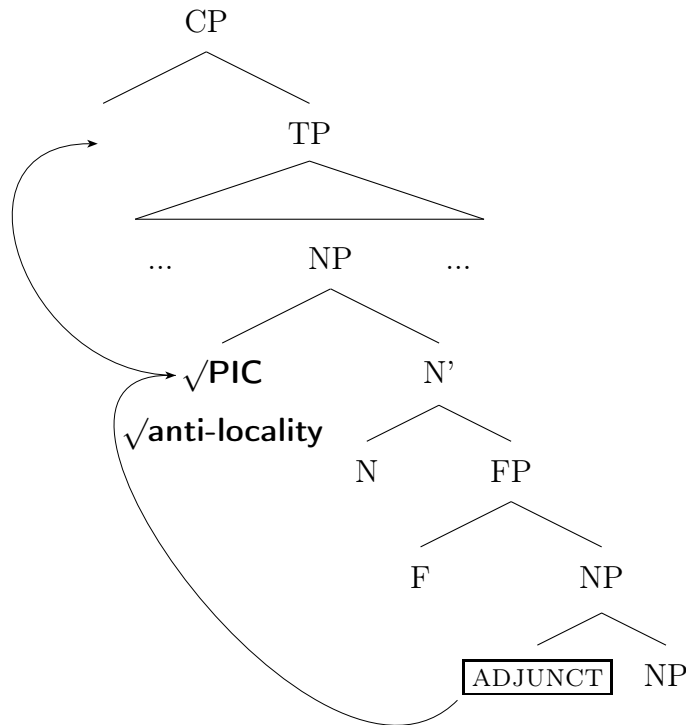'The threat of what (by Jovan) scared him?'   (SERBIAN)

The conclusion Bošković draws from these data is that structurally case-marked N-complements differ from inherently case-marked N-complements: the former do not allow (Deep) LBE and (Deep) AE out of them and they themselves cannot be extracted whereas, the latter are not subject to these restrictions. In order to account for this complexity, Bošković offers three solutions, which I present below.

3.2.2.3.1 NPs are Phases After All

One possibility is to assume that NPs are phases after all, contrary to the assumption (3.22) above. The assumption applies equally to both NPs assigning structural case and NPs assigning inherent case. To account for the differences in extraction potentials between the two, Bošković claims that '[...] the difference between the former and the latter is that NPs headed by inherent case assigning nouns have more structure, which enables extraction out of such NPs to obey anti-locality. This additional structure can be located either on top of the inherent case assigning noun, or in its complement [...] However, there are reasons to prefer [the former].' (Bošković (to appearb), p12)[14] So, in inherently case-marked N-complements, there is the additional structure, FP, located above the inherently case-marked NP. The presence of this structure renders the extraction of an adjunct out of the lower NP possible: it does not violate PIC (3.22) or anti-locality (3.23). Adjuncts are adjoined to a lower NP and when they move out of it, they first move to the Spec-position of the higher NP. In doing so, they conform both to the PIC (the element that is to be extracted out of a phase, must move to its edge first) and, to the anti-locality hypothesis (the movement crosses one full phrasal boundary, FP). The same logic applies to the extraction of the inherently case-marked complement NP.

---

[14]The supporting data for the FP being above the inherently case-marked NP rather than above the whole NP come from (a) binding, where it is shown that Serbian possessives are uniformly (and hence, desirably) treated as NP-adjoined in both inherently and structurally case-marked N-complements if the FP is located above the inherently case-marked NP; otherwise, in inherently case-marked N-complements, possessives would be FP-adjoined and in structurally case-marked NP complements, NP-adjoined, (b) the intuition that inherent case assignment is tied to prepositionhood, where F can be considered as a preposition-like element.

(3.33)

```
                         CP
              ┌──────────┐
                          TP
                ┌─────────────────────┐
              ...        NP          ...
                    ┌─────────┐
                  √PIC          N'
              √anti-locality  ┌──────┐
                            N       FP
                                  ┌──────┐
                                 F       NP
                                      ┌──────┐
                                  ADJUNCT    NP
```

Deep LBE and Deep AE out of structurally case-marked N-complements and the extraction of structurally case-marked N-complements are illicit since the movement does not conform either to PIC or to anti-locality. Given that there is no additional structure, i.e., there is an NP above another NP,[15] extraction of an adjunct out of the lower NP violates PIC (if the adjunct is moved directly outside of the NP-over-NP structure, i.e., if it does not stop at the phase-edge before leaving the phase) or anti-locality (if the adjunct is moved to the Specifier of the higher NP since it does not cross one full phrasal boundary).

As for the simple LBE and AE cases, these can still be accounted for even if NP is a phase. For Bošković, both adjectives and adjuncts are base-generated at the NP edge and as such, when they move out of an NP, they do not violate the PIC; i.e., they are already at the edge of a phase.

---

[15]But note that the assumption must be that only the highest NP is a phase. Otherwise, the extraction of an adjunct out of a lower NP will not violate PIC; just like there is no violation of this principle in simple LBE and AE cases: adjuncts are base-generated at the edge of a phase.

3.2.2.3.2 Structural Case-Assigning NPs are Phases

Another suggestion that Bošković (2012b) offers is that there is a crucial distinction in phase-hood between the two types of NPs: structural case assigning NPs (shown as NP_{SCA} below, where SCA stands for 'Structural Case Assigner') are phases and inherent case assigning NPs are not. Thus, the former are subject to PIC and anti-locality when Deep LBE, Deep AE or complement extraction is performed. In other words, extraction of an adjunct out of a structurally case-marked NP violates PIC if it does not move to the NP phase-edge (Spec-NP) first; and, it violates the anti-locality requirement if it moves to the Spec-NP since the movement does not cross one full phrasal boundary. This is shown in the tree diagram below.

(3.34) <u>NP ASSIGNING STRUCTURAL CASE</u>
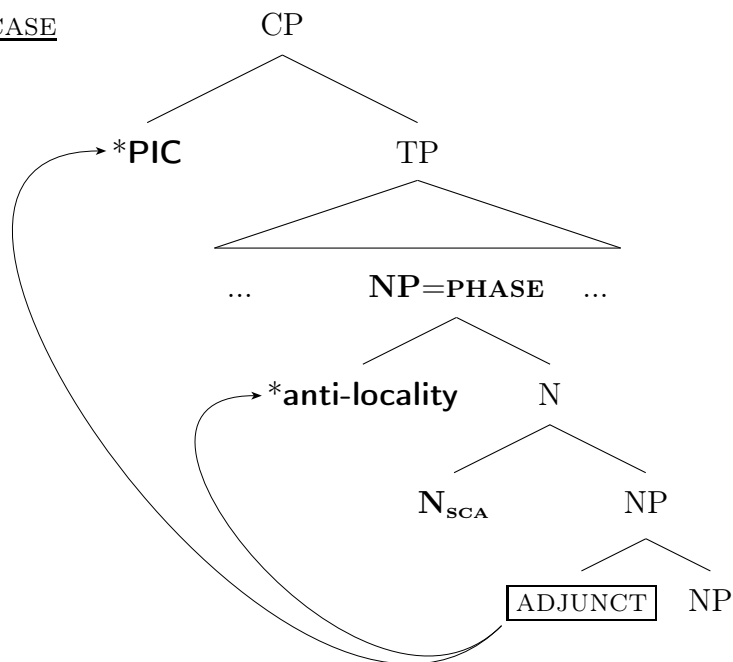
NPs that assign inherent case to their complements, on the other hand, are not phasal so there is no violation of PIC or anti-locality if an adjunct is extracted from their complements or if the complement itself is extracted. There is an NP over NP, where the higher NP, the one assigning inherent case to its complement, is not a phase. Hence, the extraction out of a lower NP can proceed without causing any violations. The basic idea behind the proposal

is to relate the assignment of inherent case to theta role licensing (Chomsky (1986b)); i.e., an inherent case comes with a theta role, but there is no case valuation involved.[16]

3.2.2.3.3 Phases are Determined Contextually

The third option Bošković explores appears in his recent paper on phases, where he advocates the dynamic approach to phases rather than the rigid one (always a phase/never a phase), (Bošković (to appeara)). According to the dynamic approach, the amount of structure within a phase determines what phrase counts as a phase; in other words, phases are determined contextually. So, if there is only an NP in a structure, then the NP is a phase. However, if there is a QP above NP, then QP counts as a phase and NP does not. Such a proposal assumes that it is always the highest projection in a relevant (extended projection) structure that counts as a phase.

This approach however does not solve the puzzling data concerning the Deep LBE, Deep AE and N-complement extraction out of structurally and inherently case-marked NPs. Note that the dynamic approach to phases affects phasehood of an XP within the same extended projection (QP over NP, for instance). Following this kind of reasoning, both structurally and inherently case-marked NP complements are phases. That is, there is no explanation for the observed differences as far as the extractions out of structurally and inherently case-marked N-complements are concerned. Bošković mentions in ft.14 of the paper that inherent-case assigning contexts are ignored in the paper and refers a reader to Bošković (to appearb) where he introduces the FP projection above an inherently case-marked N-complements and claims that this projection is not a part of the NP extended projection since its head is not a nominal element. This leaves us with an unexplained extraction potentials from/of structurally and inherently case-marked N-complements.

---

[16]Bošković (2012b) cites work of Takahashi (in press) on Japanese nominative/accusative conversion and its interaction with scope to provide further evidence that case valuation determines phases.

3.2.2.3.4 Complex XP Constraint

In his recent colloquium talk at UMD, College Park, Bošković provides a potential solution to the problem, though not related to the phasehood of the NPs involved (Bošković (2013)). He proposes the following constraint:

(3.35) **The Complex XP Constraint** (where X ≠ VP)

Extraction from complements of lexical heads is disallowed.

(taken from Bošković (2013), p17, ex (104))

This constraint coupled with the proposal that there is an FP above the inherently case-marked NP complements explains the distributional differences observed. In particular, inherently case-marked N-complements are actually complements of F, a non-lexical element. As such, they are not subject to the constraint in (3.35) and extractions are licit. Structurally case-marked N-complements, on the other hand, are complements of N, a lexical head. As such, they are subject to the constraint in (3.35), rendering the extractions impossible. The proposed Constraint hence tracks the differences between Deep LBE, Deep AE and complement extraction (out) of structurally and inherently case-marked N-complements.

3.2.2.4 Extraordinary LBE

There is yet another type of LBE that Bošković (2005) discusses, dubbed *extraordinary LBE*. It involves extraction of what appears to be a non-constituent. In the example (3.36) below, the preposition and adjective are extracted whereas the noun is left behind.[17]

(3.36) (taken from Bošković (2005), p30, ex (78))

[***U veliku***]$_i$ *on uđe* [t$_i$ *sobu*].
in big   he entered   room
'He entered the big room.'   (SERBIAN)

---

[17]A number of researchers have proposed accounts for these structures, Franks and Progovac (1994), Fanselow and Ćavar (2002), Bašić (2004), Franks and Peti-Stantić (2006), Talić (2013), i.a. I will not present them here since I will not have anything new to add to the discussion.

Extraordinary LBE, Bošković claims, can be analyzed as a type of an ordinary LBE (following works of Borsley and Jaworska (1988), Corver (1992), Franks and Progovac (1994), Franks (1998)). The main claim is that the preposition cliticizes / adjoins to an adjective and the LBE hence affects AP rather than a PP. One piece of evidence comes from the observation that if an adjective is modified by an adverb within a PP, extraordinary LBE must affect both the adverb and the adjective.

(3.37) (taken from Bošković (2005), p33, exs (87) and (88) respectively)

a) [***U*** *__izuzetno__* ***veliku***]$_i$ *on* *uđe* [t$_i$ *sobu*].
   in   extremely big   he entered   room

<div align="right">(SERBIAN)</div>

b) *[***U*** ***veliku***]$_i$ *on* *uđe* [*__izuzetno__* t$_i$ *sobu*].
   in big   he entered extremely   room
   'He entered the extremely big room.'

However, if instead of an adjective (3.135a), a preposition has a modifier (3.38b), extraordinary LBE cannot apply to it. These data, Bošković claims, suggest that AP rather than PP movement is involved.

(3.38) Bošković (2005), p33, exs (80) and (81) respectively)

a) *On* *uđe* [*__pravo__* ***u*** *veliku* *sobu*].
   he entered straight in big   room

<div align="right">(SERBIAN)</div>

b) *[*__Pravo__* ***u*** *veliku*]$_i$ *on* *uđe* [t$_i$ *sobu*].
   straight in big   he entered   room
   'He went in straight into the big room.'

Second, Bošković reports that extraordinary LBE behaves like ordinary LBE when extraction out of (structurally case-marked) N-complements are concerned, i.e., Deep LBE.

So, just like it is impossible to extract an adjective out of a structurally case-marked N-complement (as shown in (3.27) above, repeated below as (3.39)), it is likewise impossible to perform an extraordinary LBE out of a PP complement, (3.40):

(3.39) (taken from Bašić (2004), p32, ex (65ii))

   *__Kojeg___i *je*   *on pozajmio knjigu* [t_i *studenta*]*?*
   which   AUX he borrowed book   student.**GEN**
   'Of which student did he borrow a book?'   (SERBIAN)

(3.40) (taken from Bošković (2005), p34, ex (89a))

   *[__O__   __kakvim__]_i *je*   *Jovan pročitao članak* [t_i *studentima*]*?*
   about what.kind AUX Jovan read   article   students
   'About what kind of students did Jovan read an article?'

Regarding the structural position of a preposition in extraordinary LBE cases, Bošković suggests that an adjective first moves to a position so it c-commands the preposition and then the preposition adjoins to the adjective (Bošković (2005), p34).

To sum up, proponents of the Parameterized DP-Hypothesis directly correlate the presence / absence of DP projection with the LBE and AE potentials, where the DP projection depends on the presence of (definite) articles in a language (following the generalizations in (3.8) and (3.14) above). In the next section, I will present a range of data from different languages that introduce problems for the analysis proposed by Bošković, and challenge the relation: definite article → DP → ¬LBE/AE.

3.3 Some Challenging Data for the Parameterized DP-Hypothesis

This section discusses challenging data for the extraction analysis as offered by Bošković (2005) and his subsequent work and, the LBE and AE generalizations as stated in (3.8) and (3.14) above. It also discusses some controversies regarding the data that the generalizations are built on. The section is divided accordingly: (a) the first part discusses data that is problematic for Bošković's analysis as far as its uniform treatment of LBE and AE is concerned and, his analysis of Deep LBE, Deep AE and N-complement extraction, (b) the second part presents data that challenge the LBE and AE generalizations and, (c) the third part presents some controversial data. All of the data to be presented include reported and new data.

3.3.1 Challenges for Bošković's Analysis

The analysis proposed by Bošković (2005) seems appealing since it appears to uniformly track the differences in the LBE and AE potentials cross-linguistically. However, a more detailed look at the LBE and AE data that the proposed analysis is trying to capture reveals that it faces some serious problems and calls for revisions. I will present three such challenges below:[18] (a) definiteness/specificity effect, (b) Condition on Extraction Domain (Jurka (2010)) and (c) some more elaborate data on extraction (Deep LBE, Deep AE or N-complement) from structurally and inherently case-marked NPs (Bašić (2004), Schoorlemmer (2012)).

---

[18]Note that I am presenting problems for Bošković's analysis that do not point out only to the problems related to *extraction* operation he advocates but other aspects as well. For discussion on problems related to *extraction* only, see Pereltsvaig (2008) and Pereltsvaig (2013) as well as section 3.5 below.

3.3.1.1 Definiteness/Specificity Effect

It is a well-known fact that extraction of N-complements out of definite noun phrases is less acceptable than extraction out of indefinite noun phrases. In other words, the acceptability of extraction is directly related to the definiteness of a noun phrase. This is a so-called Definiteness Effect (Diesing (1992)).

(3.41) (taken from Bašić (2004), p86, ex(176))

    a) *Who did you read **a** book about?*

    b) *Who did you read ∅ books about?*

    c) **Who did you read **the/this** book about?*

    d) **Who did you read **John's** book about?*

Bošković, however, claims that the Effect is 'often relaxed in S[erbo]C[roatian]' (Bošković (2008b), p107), and provides the following example(s) to illustrate the point:[19]

(3.42) (adapted from Bošković (2008b), p107, ex (31))

    a) [O   *kojem piscu*]$_i$ *je   pročitao* [**svaku** *knjigu* t$_i$]*?*
       about which writer AUX read   every book
    '*About which writer did he read every book?'   (SERBIAN)

    b) [O   *kojem piscu*]$_i$ *je   pročitao* [**sve** *knjige* t$_i$]*?*
       about which writer AUX read   all books
    '*About which writer did he read all books?'

    c) [O   *kojem piscu*]$_i$ *je   pročitao* [**(tu)** **tvoju** *knjigu* t$_i$]*?*
       about which writer AUX read   that your book
    '*About which writer did he read that book of yours?'

---

[19]I will address extraction out of noun phrases containing demonstratives in this section. Extraction out of noun phrases containing different types of quantifiers will be addressed in the next section, where I present the acceptability judgment studies.

He argues that such a difference in behavior between English and Serbian in fact follows from his analysis: extraction out of definite noun phrases in English is banned given that there is DP in the structure whereas it is predicted to be fine in Serbian since there is no DP and, quantifiers, demonstratives and possessives are not D items but rather adjoined to NP. However, note that such an explanation regarding the extraction differences between the two languages has two implications that need to be addressed.

The first one is that there must be a difference between English definite and indefinite noun phrases: structural or categorial. Bošković explores the former.[20] In his discussion of the acceptability of the Serbian example in (3.42) as opposed to its English counterpart (3.41c, d), Bošković (2008b) says that 'extraction from definite T[raditional] N[oun] P[hrase]s/TNPs with filled SpecDP is banned in English' (p107). There are two possible ways to interpret this: one is that there are definite noun phrases in English with a non-filled SpecDP (which would predict that extraction out of such noun phrases would be acceptable) and the other one is that all definite noun phrases in English have a filled SpecDP position (which blocks the extraction). If we take the latter to be the case, given that extraction out of definite noun phrases in English is unacceptable (ruling out the first interpretation), the following questions arise: (a) what is the element that appears in SpecDP when definite article or demonstrative are used since these elements are D heads for Bošković and, (b) why is it the case that the same element does not appear in SpecDP when there is an indefinite or no article. These questions call for an explanation.

The second implication of the Bošković's proposal is that the extracted elements in English examples are N-complements. If they were NP adjuncts, the occupancy of the Spec-DP position would be irrelevant for tracking the extraction differences as far as definiteness of a noun phrase is concerned. That is, extraction out of both definite and indefinite noun

---

[20]As far as English indefinite article is concerned, as mentioned in §Chapter 1, Bošković (2009b) claims that 'a number of authors have argued, or at least developed systems which lead to the conclusion, that indefinite articles are not located in the DP projection.' (p54) He cites the work of Bowers (1987), Stowell (1989), Chomsky (1995) and his own work, Bošković (2007). Hence, it could be the case that, for him, indefinite noun phrases in English involve presence of another projection within a DP that hosts the indefinite article.

phrases would be unacceptable because it would violate either anti-locality or PIC (on a par with LBE). With this in mind, the Serbian example in (3.42) should also be an instance of N-complement extraction since it is given as an English counterpart. However, such an assumption leads to conflicting results. If we take Bošković's recent proposal that NP is a phase in Serbian to be correct, then the N-complement extraction should be illicit: it would violate the anti-locality, as stated in (3.23) above. This is contrary to the fact.

Therefore, it is either the case that extracted phrases in English and Serbian are not of the same status: one is a complement and the other one is an adjunct, in which case Bošković's point built on these data is ill-formed, or, the two phrases are of the same status but adjustments to Bošković's analysis need to be made to track the data. I will first address the question regarding the status of the extracted phrases in Serbian and show that, in fact, Bošković himself claims in his later work that these phrases are adjuncts and not complements; this claim immediately undermines the relevance he attributes to his analysis capturing the differences between English and Serbian (one is an instance of N-complement extraction, the other one is an instance of an adjunct extraction). Then, I will show that such a finding (relevant extracted phrases are adjuncts in Serbian) introduces a problem to his theory regarding the uniform treatment of LBE and AE.

3.3.1.1.1 The Status of the Extracted Phrase

Prepositional phrases are notoriously difficult to distinguish between complements and adjuncts.[21] Not surprisingly then, there is controversy regarding the status of the extracted PP in the Serbian example in (3.42). In different papers, Bošković treats the extracted PP differently: either as an N-complement or as an NP adjunct. In Bošković (2008b), the author seems to argue that the example (3.42) involves extraction of an N-complement. I am assum-

---

[21]One way of distinguishing them is to look at their ability to function as predicates in copular structures (Grimshaw (1990)); adjuncts can while complements cannot.

(i) *a book about John* ∼ *The book is about John*
(ii) *the meaning of this expression* ∼ **The meaning is of this expression.*
   (taken from Rappaport (2001), p16, ft. 6)

ing that this is the case provided that he tries to relate definiteness/specificity effect with the DP projection. It has been observed that even though English does not allow LBE and AE, it does allow extraction of an N-complement under certain conditions: a noun phrase out of which the extraction takes place must be indefinite (based on the work of Diesing (1992)). Bošković, thus, relates the differences in N-complement extractions observed between English (subject to definiteness/specificity) and Serbian (not subject to definiteness/specificity, as shown in (3.42)) to the presence of D in the former (with the filled Spec position for definite noun phrases) but its absence in the latter.

In Bošković (2012b), the author provides a very similar example to (3.42) in which he explicitly treats the PP as a complement of N, (3.43). He uses this example to argue that PP complements of nouns can undergo extraction because the noun that selects them does not assign case to them and as such, does not count as a phase. That is, since NPs selecting for PPs are not phases, the extraction of the PPs is not subject to PIC and anti-locality; hence such extractions are acceptable.

(3.43) (taken from Bošković (2012b), p23, ex (58))

$[O$ *kojem*   *novinaru*$]_i$ *si*   *pročitao* $[$*članak*   t$_i]$*?*
about   which   journalist   AUX   read   article
'About which journalist did you read an article?'   (SERBIAN)

However, in Bošković (to appeara), the author changes his view of the PP status within nominals in general. In that paper, in footnote 11 he says: 'S[erbo]C[roatian] does not have nominal PP complements; in SC PPs modify nouns only as adjuncts. In other words, in SC, a language which allows NP nominal complements, the nominal complement/argument treatment is reserved for NPs.'[22] It follows then that the PP in (3.42) and in (3.43) must be an adjunct.

---

[22]Talić (2013) argues that S[erbo]C[roatian] does have PP complements. For her, PP-complements of N do not move; Ps incorporate into the element moved to SpecPP out of which they move together. She relates this movement to extraordinary LBE and extraction out of inherently case-marked NPs and dubs it *extraordinary complement extraction.*

There are pros and cons to both of his views of Serbian PPs. If PPs are N-complements, as argued in his earlier papers, the necessary additional assumption regarding the extraction potentials is a non-uniform treatment of NPs as far as their phasehood is concerned: NP is not a phase if it does not assign case to its complement[23] (this is in contrast with his most recent proposal that phases are determined contextually). If, on the other hand, PPs are NP adjuncts, there is no problem as far as extraction is concerned. However, in that scenario, Bošković's theory does not account for the differences in extraction potentials from English and Serbian definite noun phrases since the extracted phrases have different status (and are hence in different structural positions).

Since the latter option has lesser flaws: it tracks the Serbian data without postulating differences in NP phasehood, and it is also the most recent version of the proposal, I will take that one to be representative of Bošković's current view of the matter. If this is the case though, a problem arises: LBE and AE extraction potentials in a language that allows them are not subject to the same restrictions (and hence cannot be treated uniformly as Bošković's theory advocates).

3.3.1.1.2   LBE and AE from Definite Phrases

The crucial observation regarding the discussion on definite noun phrases and LB- and A-extractions out of them concerns the differences in acceptability of the following two examples. The first is an illustration of AE and the second one LBE.

(3.44) (adapted from Bošković (2008b), p107, ex (31))

> [*O   kojem piscu*]ᵢ *je   pročitao* [*(**tu**)   tvoju knjigu* tᵢ]*?*
> about which writer AUX   read   that   your   book
> '*About which writer did he read that book of yours?'   (SERBIAN)

---

[23]Such a proposal diminishes the need to postulate the existence of an FP above inherently case-marked N-complements that Bošković introduces to capture the extraction data.

(3.45) (adapted from Bošković (2009a), p194, ex (14))

    a) ?**skupa*_i   ***ova*** t_i *kola*
       expensive this   car
       'this expensive car'   (SERBIAN)

    b) ?**Jovanova*_i ***ova*** t_i *slika*
       Jovan's   this   picture
       'this picture of Jovan's'

Note that in both (3.44) and (3.45), there is a demonstrative (*ta* 'that' and *ova* 'this' respectively) within a noun phrase out of which the extraction is taking place. However, in (3.44), the presence of the demonstrative does not interfere with the sentence acceptability (the sentence is acceptable) whereas in (3.45) it does (the sentence is unacceptable). If the two extractions are treated uniformly in Bošković's theory, the inevitable question that arises is what causes such a distributional difference. To my knowledge, Bošković does not address this issue in his research. Hence, the detected difference casts serious doubt on the uniform treatment of the two extractions.

Two further issues need to be discussed here. The first one concerns the acceptability judgment of sentences in which PPs are extracted out of Serbian definite noun phrases, as in (3.44) and, the second one involves discussion of the ban of LBE in the presence of the demonstrative, as in (3.45). I will present them in turn.

There seems to be controversy regarding the acceptability of sentences, such as (3.44). Bošković (2008b) claims that the sentence is fully acceptable. However, Bašić (2004) makes an observation that the extraction of a PP out of a nominal that contains **a** pre-nominal element is degraded. Even though her claim applies to all pre-nominal elements, she uses an example containing a demonstrative to illustrate the point.

(3.46) (taken from Bašić (2004), p36, ex (75a))

*[*O*   *kome*]$_i$ *su*   *oni*   *objavili*   [***ovaj***   *članak*   t$_i$]*?*
about   whom   AUX   they   published   this   article
'Who did they publish this article about?'   (SERBIAN)

Given the disagreement in acceptability of the relevant examples as reported by Bošković and Bašić, both native speakers of the language, I included Bošković's example (3.44) in one of my acceptability judgment studies as a filler. Note that this example contains both the demonstrative and the possessive within the noun phrase out which the PP is extracted. The example was given an intermediate judgment of 3.7 (n=98) on a 7-point scale. Such a score indicates that there certainly exists variation among native speakers in accepting this sentence. This needs to be taken into consideration when proposing an account.

Furthermore, in one of my acceptability judgment studies, which I will report in detail later, I tested the acceptability of sentences involving AE out of noun phrases containing a demonstrative (as Bašić's example above). For our current purposes, let us look at the following pair of sentences (the two sentences are actual items from the study):

(3.47)   a) [*Iz*   *kojeg*   *grada*]$_i$ *je*   *Nikola*   *upoznao*   [***tog***   *studenta*   t$_i$]*?*
              from   which   city   AUX   Nikola   met   that   student
              'Nikola met that student from which city?'   (SERBIAN)

        b) [*Iz*   *kojeg*   *grada*]$_i$ *je*   *Nikola*   *upoznao*   [*studenta*   t$_i$]*?*
              from   which   city   AUX   Nikola   met   student
              'Nikola met a/the student from which city?'

The example (3.47a) was given an average judgment of 3.88 (n=98) whereas the example (3.47b) was given an average judgment of 4.67 (n=98). Hence, the example in which the noun phrase contains the demonstrative is judged as slightly less acceptable than the one without the demonstrative. That is, the presence of the demonstrative does not render the sentence unacceptable but it does degrade its acceptability. Such a degradation, again, needs to be taken into consideration when proposing an account.

The same observation (degradation in acceptability of AE out of noun phrases containing demonstratives) applies to other Slavic languages that allow AE. That is, in the presence of a demonstrative, AE becomes less acceptable, as illustrated with the examples from Polish[24], Russian[25] and Ukrainian[26]. All the examples are fully acceptable when there is no demonstrative in the noun phrases.

(3.48) a) *?[O   którym pisarzu]ᵢ przeczytał [**tę**   książkę tᵢ]?
            about which   writer   read   that book
            'About which writer did he read that book?'   (POLISH)

        b) *?[O   kim]ᵢ oni   opublikowali [**ten** artykuł tᵢ]?
            about whom   they published   this   article
            'About whom did they publish this article?'

(3.49) a) *?[O   kakom pisatele]ᵢ on   pročital [**tu**   knigu tᵢ]?
            about which writer   he   read   that book
            'About which writer did her read that book?'   (RUSSIAN)

        b) ?[O   kom]ᵢ oni   opublikovali [**etu** stat'ju tᵢ]?
            about whom   they published   this article
            'About whom did they publish this article?'

(3.50) a) ?[Pro   jakoho pys'mennyka]ᵢ vin prochytav [**tu**   knyhu tᵢ]?
            about   which   writer   he   read   that book
            'About which writer did he read that book?'   (UKRANIAN)

        b) ?[Pro   koho]ᵢ vony opublikuvaly [**cju** stattju tᵢ]?
            about whom   they published   this article
            'About whom did they publish this article?'

---

[24]The data are from Barbara Tomaszewicz, p.c. She informs me that on a scale 1 to 7, the examples are judged between 2 and 3; hence I use *?.

[25]The data are from Andrei Antonenko, p.c. The (a) example is given a judgment of 2 and the (b) example the judgment of 4.

[26]The data are from Roksolana Mykhaylyk and Svitlana Antonyuk-Yudina, p.c. Roksolana gives a score of 2 to both of the examples while Svitlana gives the (a) example a score of 6-7 and the (b) example the score of 7. Hence, I use ? since the average is ~4.

These data hence show that the demonstrative within a noun phrase out of which a PP is extracted interferes with the acceptability of a sentence: there seems to be variation among speakers to what extent it makes the structure unacceptable. Some speakers detect only small degradation whereas some speakers detect more significant degradation. This finding calls for explanation.

The second issue that I want to point out to concerns examples involving LBE out of noun phrases containing demonstratives. The examples shown in (3.45) above, for Bošković, serve the purpose of illustrating that demonstratives must precede adjectives within Serbian noun phrases, as discussed in §Chapter 2. The author does not refer to these examples as instances of LBE in the presence of a demonstrative. However, there are reports in the literature that LBE is unacceptable in the presence of a demonstrative.

One such report is found in Franks and Progovac (1994). Even though the authors do not make the claim that the extraction of an adjective in the presence of a demonstrative is illicit, they use exactly such an example to illustrate a more general claim: extraction of a pre-nominal modifier out of a noun phrase that contains two modifiers such that the second modifier is extracted over the first one is illicit. The ordering of pre-nominal modifiers they assume hence presupposes that there is a hierarchy among them: demonstratives are first while ordinary adjectives are second, linearly speaking.

(3.51) (taken from Bašić (2004), p45, ex (97a))

$*Zanimljivu_i$ *Jovan* *čita* **ovu** t_i *knjigu.*
interesting   Jovan   read   this   book
'Jovan is reading this interesting book.'   (SERBIAN)

This observation receives empirical support in one of my acceptability judgment studies that I will report in detail below. As an illustration, the following two examples, differing only in the presence of a demonstrative, were compared regarding their acceptability by

138

naïve native speakers of Serbian: (3.52a) was given an average judgment of 2.32 (n=98) while (3.52b) was given an average judgment of 5.58 (n=98).

(3.52)   a) *Hladan je Tanja popila **taj** čaj.*
           cold   AUX Tanja drank that tea
           'Tanja drank that cold tea.'   (SERBIAN)

        b) *Hladan je Tanja popila čaj.*
           cold   AUX Tanja drank tea
           'Tanja drank a/the cold tea.'

The same observation, i.e., unacceptability of LBE out of noun phrases containing demonstratives, holds in other Slavic languages, which generally allow LBE. Below are the data from Polish[27], Russian[28] and Ukrainian[29]. All the examples are fully acceptable without a demonstrative.

(3.53) **Wysokiego Iwan widział **tego** chłopca.*
        tall   Ivan saw   that boy
        'Ivan saw that tall boy.'   (POLISH)

(3.54) **Vysokogo Iwan videl **togo** mal'čika.*
        tall   Ivan saw that boy
        'Ivan saw that tall boy.'   (RUSSIAN)

(3.55) **Vysokoho Iwan bachyv **toho** xlopcja.*
        tall   Ivan saw   that boy
        'Ivan saw that tall boy.'   (UKRANIAN)

Pereltsvaig (2007b) reports the unacceptability of such examples in Russian (on a par with the judgment provided in (3.54) above), illustrating the point with the following example.

---

[27]The data are from Barbara Tomaszewicz, p.c.
[28]The data are from Andrei Antonenko, p.c.
[29]The data are from Roksolana Mykhaylyk and Svitlana Antonyuk-Yudina, p.c.

(3.56) (taken from Pereltsvaig (2007b), p84, ex (33))

*Francuzskij_i my posmotreli **ètot** t_i fil'm.

*Francuzskij*_i	*my*	*posmotreli*	**ètot**	t_i	*fil'm.*
French	we	saw	this		film

'As for French films, we saw this one.'   (RUSSIAN)

Pereltsvaig's paper is especially important for the current discussion since it actually prompted Bošković to address the issue. In his response to her paper, Bošković (2009a) notes in footnote 10, p195: '[g]iven that the only legitimate derivation is the one in which demonstratives are higher than adjectives, it is not surprising that left branch extraction of adjectives is impossible in the presence of a demonstrative.' If demonstratives are *higher* than adjectives, then it must be the case that there is some type of hierarchy of NP adjuncts in his system. As discussed in §Chapter 2, Bošković provides a semantic account for the observed surface linear order of Serbian demonstratives and adjectives. The ordering restriction is, he claims, semantic and not syntactic in nature. Both demonstratives and adjectives are NP adjuncts and can be generated in syntax in any order. However, their semantic types differ so that the demonstrative ($<<e,t>,t>$) has to be semantically composed after the adjective ($<e,t>$). In that sense then, going back to the quotation above, I am guessing that the term *higher* should be interpreted as *semantically last composed* given the proposed semantic type of demonstratives. Consequently, LBE of an adjective in the presence of a demonstrative is unacceptable for the same semantic reason.[30]

In one of his earlier papers, Bošković actually provides a syntactic account as well (Bošković (2005)). This account has a more general purpose however: it bans extraction of an adjective in the presence of another adjective. In other words, it is not specifically addressing the issue of adjective extraction in the presence of a demonstrative. Nevertheless, given that Bošković treats both demonstratives and adjectives syntactically the same, the ban should apply equally to both of these elements. The only important difference between

---

[30]Note here that the semantic account does not apply to AE cases involving demonstratives since Bošković reports that AE in the presence of a demonstrative is licit.

this proposal and his semantic proposal is that the former predicts that extraction of a demonstrative out of a noun phrase that contains an adjective should be as unacceptable as extraction of an adjective in the presence of a demonstrative; the semantic account makes no such predictions.

The syntactic proposal is dubbed Ban on Double Adjective LBE and it makes use of the Principle of Lethal Ambiguity (McGinnis (1998)), which 'says that two elements equidistant from a target K are lethally ambiguous for attraction by K if they are featurally non-distinct' (Bošković (2005), p26). In other words, if two elements are equally distant from a position to which they can move, and they are featurally non-distinct, none of them can be moved. Adjectives and D-like elements in Serbian are all NP adjuncts and as such, they are all equally distant from a position to which they can be LB-extracted. But what does it mean that elements are 'featurally non-dinstinct'? Bošković provides the following explanation: 'through agreement with the same noun (recall that an adjective and the noun it modifies agree in Case and ϕ-features), the adjectives end up agreeing with each other, which I take to mean they are featurally non-distinct.' (ibid., ft.38) Since most D-like elements, like adjectives, agree in case and ϕ-features with the noun they modify, they are featurally non-distinct from one other and from ordinary adjectives as well. Hence, they should be lethally ambiguous for the purposes of extraction in the presence of ordinary adjectives.

Bošković adds that LBE is possible if one of the adjectives is contrastively focused or *wh*-fronted. The focused/*wh*- adjective bears a distinct feature, [+focus] or [+wh] respectively, and the extraction conforms to the Principle of Lethal Ambiguity.[31] Scrambling, on the other

---

[31]Bošković (2005) further notes that there are some other acceptable examples of this type. In ft.39 on page 28, he says 'some of constructions of this type, especially those involving a general adjective and a denominal adjective, are quite good (though generally still not fully acceptable).' The following two examples are provided to illustrate that it is possible to extract a general adjective in the presence of a denominal adjective, (i), but not the other way around, (ii):

(i) ?**Neozbiljnog** je on otpustio **mašinskog** tehničara.
    frivolous AUX he fired mechanical technician
    'He fired a frivolous mechanical technician.'   (SERBIAN)

hand, cannot be involved in the relevant examples.[32] For Bošković, scrambling is not driven by feature checking. Hence, if scrambling were involved in the relevant structure, the scrambled adjective/D-like element would not be featurally distinct from other adjectives/D-like elements, violating the Principle of Lethal Ambiguity.[33] [34]

(ii) *__Mašinskog__ je on otpustio __neozbiljnog__ tehničara.
    mechanical AUX he fired frivolous technician
    'He fired a frivolous mechanical technician.'
    (taken from Bošković (2005), p28, ft.39)

The author provides three possible explanations for such a distribution. He takes this to suggest that (a) the two adjectives might be located in Specs of different heads, not the same head, (b) the NP *mašinskog tehničara* 'mechanical technician' is a compound and we are not dealing with double AP in this case at all or, (c) denominal adjectives are featurally distinct from general adjectives and the contrast between (i) and (ii) is accounted for by proposing that the two adjectives are located in higher and lower Specs of the same head prior to the movement, where crossing of the higher Spec causes a violation.

[32]Bošković (2004) draws attention to the fact that the term *scrambling* is 'one of the most abused terms in the linguistic vocabulary. In the current literature, the term is often used for expository convenience when authors are not sure what kind of movement they are dealing with, or when they want to avoid committing themselves to the issue, or merely to indicate that the movement in question is different from other, better-known instances of movement regarding languages/phenomena considered.' (p617)

[33]Bošković (2003) actually correlates LBE and scrambling of the type argued by Bošković and Takahashi (1998). '[T]he correlation between LBE and scrambling can be easily captured under base-generation analyses of scrambling such as Bošković and Takahashi (1998), which base-generates "scrambled" elements in their surface non-θ-positions and moves them to their θ-positions in LF, θ-theoretic considerations driving the movement. Given Higginbotham (1985) θ-identification analysis of adjectives (see also his autonomous θ-marking), adjectives can also move in LF for θ-theoretic reasons.' (p554) He adds that '[...] we simply need a formal reason to place the scrambled element in LF in the position where it is interpreted. Strictly speaking, the reason does not have to be θ-related, e.g. licensing the agreement relation between the adjective and the noun could also plausibly drive LF movement of the adjective.' (ibid, ft.19)

[34]Such a view of scrambling, however, fails to account for semantic effects that are associated with both short- and long-distance scrambling. (But note that Bošković and Takahashi (1998) claim that short-distance scrambling of adjuncts, which might be what we are dealing with in the case of LBE, is an unclear case as far as scrambling is concerned: it is not clear whether it is scrambling or base-generation.) Since scrambled phrase is lowered into its θ-role position at LF, which is the linguistic level where the semantic interpretation is provided (Hornstein (1995)), it is thus impossible for it to be interpreted in the SS position. However, the findings reported in Bailyn (2001), Jackson (2008) and Mykhaylyk (2009), for instance, show that the meaning of a sentence differs with different word orders (scope and information structure). That is, these authors argue that the surface position of a scrambled element has a semantic effect. Bailyn (2001) gives the following generalization about scrambling:

(i) A'-scrambled orders are always associated with different discourse/informational interpretations from non-scrambled orders.
(ii) The movement deriving scrambled orders is motivated by discourse/informational considerations.

In his reply to Bailyn, Bošković (2004) claims that the movement in Russian which Bailyn discusses is an instance of topicalization/focalization and not scrambling of the type found in Japanese. He claims

Therefore, whatever account (semantic or syntactic) one takes to track the observed distribution of adjectival LBE in the presence of a demonstrative, one needs to take into consideration that AE does not conform to the same restriction. As we have seen above, adjectival LBE in the presence of a demonstrative is flatly ungrammatical (for all researchers writing on this topic as well as native speakers of relevant languages) whereas AE in the presence of a demonstrative causes various degrees of degradation in acceptability but not complete rejection. The detected differences in extraction potentials under the same conditions (presence of a demonstrative) call for re-examination of Bošković's proposal that is argued to uniformly apply to both LBE and AE. They are rather suggestive of two different types of syntactic operations involved that 'drive' the LBE and AE.[35]

To sum up, Bošković's observation that unlike English, Serbian allows extraction of PPs out of definite noun phrases needs to be re-evaluated. First, we have seen that there is a controversy regarding the status of the extracted PP in Serbian: N-complement vs. NP adjunct. Bošković himself changes his opinion of the way he treats the relevant PPs; the latest version being that they are NP adjuncts. As such, these PPs are of a different status than the English PPs that they were originally compared with. Hence, the data do not illustrate the lack of the Definiteness Effect in Serbian. Furthermore, we have seen that LBE and AE out of definite noun phrases do not pattern together: LBE is impossible in such circumstances whereas AE causes degradation in acceptability (in various degrees). These findings question the uniform treatment of LBE and AE, as Bošković advocates in his work.

---

that the main property of Japanese-style scrambling is the 'undoing': if there is a semantic import (operator-variable relation), the movement cannot be undone. Since scrambling requires an element to appear in its θ-position at LF, i.e., the movement must be 'undone', it follows that scrambling cannot have semantic import. Topicalization is different from Japanese-style scrambling in that it has a semantic effect.

[35]Bašić (2004) reports that Serbian LBE and AE are subject to different conditions and as such cannot be treated uniformly. She suggests that LBE is a type of a remnant movement while AE involves direct extraction.

3.3.1.2   Condition on Extraction Domain

As we have already seen, Bošković provides an analysis that is meant to track both LBE and AE data. The basic mechanism the proposal assumes is direct extraction. If this is indeed the case, both LBE and AE, as extractions, should be subject to the same restrictions that extractions in general obey. One such restriction is Condition on Extraction Domain (CED), Huang (1982). In this section, I will present an acceptability judgment study that tested Serbian LBE and AE with respect to CED (Jurka (2010)).

Ross (1967) was the first one to observe that extraction of NPs immediately dominated by S is disallowed. He dubbed the constraint *Sentential Subject Constraint.*[36] Chomsky (1973) extended Ross's Constraint to a general *Subject Condition*, according to which subextraction out of <u>subjects</u> is disallowed across the board. The Condition was further extended by Huang (1982) who included it into a general condition on extraction out of <u>non-complements</u>. The condition is dubbed *Condition on Extraction Domains* (CED) and is given in (3.57) below.

(3.57) CONDITION ON EXTRACTION DOMAIN

A phrase A may be extracted out of a domain B only if B is properly governed.

(taken from Huang (1982), p505)

The descriptive generalization formulated in CED is that complements (objects) allow extraction whereas non-complements (subjects and adjuncts) do not. In other words, only complements are licit domains for extraction.[37] Example (3.58) is an instance of extraction out of an object; (3.59a,b) illustrate impossible extraction out of a subject and (3.59c) illustrates impossible extraction out of an adjunct.

---

[36]Ross (1967) does not use the term *subject* in his formulation of the Constraint; however, the wording is such that it is clear that the rule affects only subjects (taken from Ross (1967), p243, ex(4.254)).

(i) THE SENTENTIAL SUBJECT CONSTRAINT
   No element dominated by an S may be moved out of that S if that node S is dominated
   by an NP which itself is immediately dominated by S.

[37]See Stepanov (2007) for counterexamples to the CED and Jurka (2010) for criticism.

(3.58) (taken from Stepanov (2007), p80, ex (2))

    Who$_i$ did you see [a picture of t$_i$]?

(3.59) (taken from Stepanov (2007), p80, exs (1) & (3) respectively)

    a) ?**Who$_i$ does [a picture of* t$_i$] *hang on the wall?*

    b) ?**Which car$_i$ is [to park there* t$_i$] *illegal?*

    c) ?**Who$_i$ did Mary cry [after Peter hit* t$_i$]?

Given that Bošković assumes that both LBE and AE in Serbian involve *extraction*, the prediction is that both LBE and AE should conform to the CED. That is, LB- and A-extractions out of subjects (non-complements) should be illicit whereas they should be fine if out of objects (complements). The acceptability judgment study reported below tested this prediction. The study is a collaborative work with Johannes Jurka.[38]

We looked at cases of LBE and what we referred to as PP extraction (PPE) out of subjects and objects. The PPE that we tested made use of only one type of PP: [$_{PP}$ *o X*] 'about X'. As we have seen in the discussion above, it is a matter of debate whether Serbian PPs are adjuncts or complements to nouns. Bošković's most recent take on the matter is that PPs are adjuncts (Bošković (to appeara)). We took this to be the case and treated the extraction of PP as an instance of AE.

We conducted two 7-point scale acceptability judgment studies, looking at subject/object asymmetries for LBE and AE. For both structures we manipulated the factors SUBJ-OBJ and EXTRACTION, yielding the following four conditions:[39]

---

[38]The study is reported in Jurka (2010).

[39]Note that we used temporal adjuncts in our examples. Bašić (2004) claims that if a noun (from which the extraction is taking place) immediately follows an adjunct, the sentence is unacceptable.

(i) ?**Crveni je on kupio **pre tri dana** <u>auto</u>.*
    red AUX he bought before three days car
    'He bought a red car three days ago.'   (SERBIAN)

(3.60) **Left Branch Extraction**

a) <u>Subject, -LBE</u>

[*Čiji   **prijatelji***] *su   prošle godine upoznali komšije?*
whose friends   AUX last   year   meet   neighbors
'Whose friends met the neighbors last year?'

b) <u>Subject, +LBE</u>

[*Čiji*]ᵢ *su   prošle godine* [tᵢ **prijatelji**] *upoznali komšije?*
whose AUX last   year   friends   meet   neighbors
'Whose friends met the neighbors last year?'

c) <u>Object, -LBE</u>

[*Čije   **komšije***] *su   prošle godine prijatelji upoznali?*
whose neighbors AUX last   year   friends   meet
'Whose neighbors did the friends meet last year?'

d) <u>Object, +LBE</u>

[*Čije*]ᵢ *su   prošle godine prijatelji upoznali* [tᵢ **komšije**]*?*
whose AUX last   year   friends   meet   neighbors
'Whose neighbors did the friends meet last year?'

(ii) ?**Čiju su oni objavili **prošle godine** <u>knjigu</u>?*
    whose AUX they published last year book
    'Whose book did they publish last year?'
    (taken from Bašić (2004), p57, ex (115))

These examples are taken to show that the movement of a noun is not rightward, which would in-volve adjunction to TP (in this case, the noun should be able to appear after the sentence-final adjunct if it right-adjoins to TP). In the examples we included in our study, all adjuncts were in intra-clausal positions. The purpose of having these adjuncts was to clearly indicate the extraction out of a subject.

(3.61) **ADJUNCT EXTRACTION**

  a) SUBJECT, -AE

  [***Knjiga o Marku***] *je prošle godine izazvala burne polemike.*
  book   about Marko   AUX last   year   caused heated discussions
  'A book about Marko caused heated discussions last year.'

  b) SUBJECT, +AE

  [***O kome***]$_i$ *je prošle godine* [***knjiga*** t$_i$] *izazvala burne*
  about whom AUX last   year   book   caused   heated
  polemike?
  discussions
  'A book about whom caused heated discussions last year?'

  c) OBJECT, -AE

  Taj političar je prošle godine pročitao [***knjigu o Marku***].
  that politician AUX last   year   read   book   about Marko
  'That politician read a book about Marko last year.'

  d) OBJECT, +AE

  [***O kome***]$_i$ *je prošle godine taj političar pročitao* [***knjigu*** t$_i$]*?*
  about whom AUX last   year   that politician read   book
  'About whom did that politician read a book last year?'

Three lexicalizations of each condition were constructed and grouped into four Latin square list (two separate sets of lists for LBE and AE). Each participant was presented with 24 critical items and 36 filler items of all levels of acceptability. 20 naïve native speakers of Serbian with no prior training in linguistics participated in the study online.

The results of the study show that there are subject/object asymmetries with AE ($\bar{x}$=3.22 vs. 5.50, $t(1,59)$=6.75, p<.001) but <u>not</u> with LBE ($\bar{x}$=3.35 vs. 3.02, $t(1,59)$=.92, p=.18). The graph below illustrates the findings. The colors of the lines indicate the subject/object

differences: the red lines represent subject conditions, the blue lines represent object conditions. The types of the lines indicate the type of extraction: the solid lines refer to the LBE conditions and the dotted lines refer to the AE. The x-axis indicates when extractions did not take place (-ext(raction)) and when they did (+ext(raction)). The y-axis is a 7-point scale that the subjects used to judge the acceptability of the sentences.

(3.62) Left Branch-/Adjunct-Extraction and Condition on Extraction Domain in Serbian
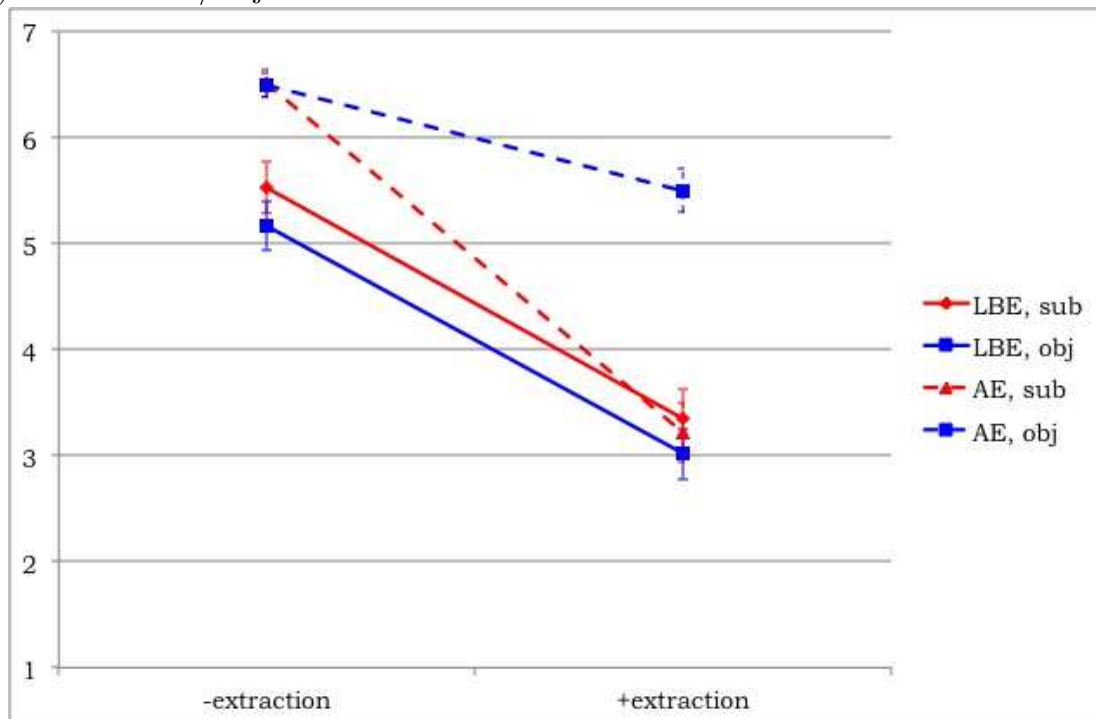
As the graph shows, the solid lines (LBE-condition) are almost perfectly parallel, indicating that no subject/object asymmetry was detected. In other words, participants' acceptability judgments of examples involving LBE out of subjects and LBE out of objects did not differ. On the other hand, the dotted lines (AE-condition) are not parallel, indicating that there is an interaction effect between two factors (subject/object and AE). That is, participants' acceptability judgments of examples involving A-extractions out of objects (blue dotted line) are given higher scores (i.e., they are more acceptable) than the examples involving A-extractions out of subjects (red dotted line). Two way repeated measure ANOVAs

confirm that there is a significant difference for conditions SUBJOBJ and EXTRACTION for AE (F(1,59)=170.031, $p<.001$) but not for LBE (F(1,59)=.104, $p<.749$).

The results of this study show that AE but not LBE in Serbian conforms to CED. Such a finding indicates that AE and LBE cannot be treated uniformly. AE exhibits behavior of extractions (conforms to CED) while LBE does not (violates CED). This finding casts serious doubt on the uniform treatment of LBE and AE as argued by Bošković and calls for explanation.[40]

3.3.1.3 Structurally and Inherently Case-Marked N-Complements

It is reported in Bošković (to appearb) and Bošković (2012b) that the extraction (out) of structurally case-marked N-complements in Serbian is illicit whereas the extraction (out) of inherently case-marked N-complements is not. I have presented these data above but I will repeat them here for convenience. The examples (3.63a), (3.63b) and (3.63c) illustrate Deep LBE, Deep AE and N-complement extraction (out) of structurally case-marked NPs respectively. The examples (3.64a), (3.64b) and (3.64c) illustrate the same phenomena involving inherently case-marked NPs.

(3.63) NP IN STRUCTURAL CASE

    a) DEEP LBE

       (taken from Bašić (2004), p32, ex (65ii))

       *Kojeg$_i$ je   on pozajmio knjigu [t$_i$ studenta]?
       which AUX he borrowed book   student.GEN
       'Of which student did he borrow a book?'   (SERBIAN)

---

[40]The findings reported complement the intuitions from the theoretical literature as argued by Bašić that LBE and AE are not subject to same conditions and involve two different types of movement, as mentioned earlier.

b) <u>Deep AE</u>

(taken from Bošković (to appearb), p10, ex (36))

?*[*Iz   kojeg   grada*]ᵢ *je   Petar   kupio   slike   * [*djevojke* tᵢ]*?*
  from   which   city   AUX Petar bought pictures girl.**GEN**
    'From which city did Petar buy pictures of a girl?'

c) <u>Complement extraction</u>

(taken from Bošković (to appearb), p11, ex (38a), citing Zlatić (1997))

?*[*Ovog studenta*]ᵢ   *sam pronašla knjigu* [tᵢ]
  this   student.**GEN** AUX found   book
    'Of this student I found the book.'

(3.64) **NP in inherent case**

a) <u>Deep LBE</u>

(taken from Bošković (to appearb), p12, ex (39a))

?*Kakvom*ᵢ   *ga je uplašila pretnja* [tᵢ *smrću*]*?*
  what.kind.of him AUX scared   threat   death.**INST**
    'Of what kind of death did a threat scare him?'   (serbian)

b) <u>Deep AE</u>

(taken from Bošković (to appearb), p12, ex (41))

?[*Iz   kojeg   grada*]ᵢ *ga   je   uplašila pretnja* [*djevojkama* tᵢ]*?*
  from   which   city   him AUX scared   threat   girls.**INST**
    'A threat of the girls from which city scare him?'

c) <u>Complement extraction</u>

(taken from Bošković (to appearb), p12, ex (40a), citing Zlatić (1994))

*Čime*ᵢ   *ga je (Jovanova) pretnja* [tᵢ] *uplašila?*
  what.**INST** him AUX Jovan's   threat   scared
    'The threat of what (by Jovan) scared him?'

150

Even though Bošković builds his proposal on these data (as shown in §3.2.2.3 above), there is controversy regarding their acceptability. I will first discuss extractions (out) of structurally case-marked NPs as complements of N and then turn to inherently case-marked NPs.

Bašić (2004) reports that the 'judgments concerning the grammaticality of extraction from DPs with structural case seems to vary considerably' (p34). She illustrates the point with the following three examples, all involving extraction of a structurally case-marked N-complement. The judgments are Bašić's.[41]

(3.65) (taken from Bašić (2004), pp34-35, exs (71c), (73a) and (73c) respectively)

    a) *[*Kojih ljudi*]$_i$ *se plašio optužbi*   [t$_i$]*?*
        which people.**GEN** AUX be.afraid accusations
        'Accusations by which people was he afraid of?'   (SERBIAN)

    b) (?)?[*Kojih studenata*]$_i$ *podržavaš protest* [t$_i$]*?*
        which students.**GEN** support protest
        'Which students do you support a protest of?'

    c) *Čega*$_i$ *osećaš nedostatak* [t$_i$]*?*
        what.**GEN** feel lack
        'What do you feel a lack of?'

---

[41]Even though I am not going to offer a proposal that tracks the relevant data, I speculate that the differences in acceptability of the examples below might be contributed to the processing factor of early integration. In (3.65a), the extracted NP is genitive case-marked but the verb itself is such that it requires a genitive case-marked object (*plašiti se nečega*.**GEN** 'be afraid of something'). So, once the verb is encountered, a speaker might try to (wrongly) integrate the extracted genitive case-marked NP into an object position of the verb. Once the actual object of the verb is encountered, the parser fails.

As for the examples (3.65b) and (3.65c), in both of them verbs require an accusative case-marked object, so no early integration is expected. However, the former might be less acceptable than the latter due to the 'heaviness' of the extracted phrase. In fact, if the extracted phrase in (3.65c) is replaced with a heavier phrase (illustrated in (i) below), its acceptability rate drops. Example (i) was given an average judgment of 4.55 (n=56) on a 7-point scale, which is almost identical to the average judgment of the example (3.65b), which also contains a 'heavier' extracted phrase.

(i) ??[*Kojih vitamina*]$_i$ *osećaš* [*nedostatak* t$_i$]?
   which vitamins feel lack.of
   'Which vitamins do you feel a lack of?   (SERBIAN)

The examples show that the acceptability rate ranges from low to high. In other words, some instances of N-complement extraction are unacceptable (3.65a) whereas others are border-line acceptable (3.65b) or completely acceptable (3.65c). I share Bašić's native speaker intuitions but I nevertheless tested the three examples in one of the 7-point scale acceptability judgment studies I ran (the details of which are reported in a later section). The average judgments that these three examples were given confirm Bašić's intuitions: (3.65a) was rated 2.7, (3.65b) was rated 4.6 and (3.65c) was rated 5.4 (n=56). These data challenge Bošković's general claim that extractions (out) of structurally case-marked N-complements is unacceptable. Hence, his proposal needs to be adjusted so it can accommodate the relevant data.

Note further that Bošković (to appeara) himself claims that the acceptability of examples involving N-complement extraction of structurally case-marked NPs can improve. He argues that if there is a quantifier or a numeral above the higher NP, the extraction of the structurally case-marked NP is fully acceptable (compare with (3.63c) above):

(3.66) (taken from Bošković (to appeara), p6, ex (17a))

[*Ovog* *studenta*]$_i$		*sam*	*pronašla*	***mnogo***/***deset***	*slika*	[t$_i$].
this	student.**GEN**	AUX	found	many/ten	pictures	

'I found many/ten pictures of this student.' (SERBIAN)

Bošković claims that the observed distribution is expected given that, according to the theory he advocates, there is an additional projection within the nominal domain in (3.66), QP, hosting the quantifier (or the numeral). The QP provides an escape-hatch for extraction: the NP *ovog studenta* 'this student' thus moves to SpecQP, conforming to both PIC and anti-locality. Note however that in order for this proposal to work, NP cannot be a phase since it would render the extraction impossible.

Compelled by such a report concerning the data in question, I included the example (3.66) and its non-quantifier counterpart, (3.63c), in one of my acceptability judgment studies as

fillers. I used the noun *knjiga* 'book' instead of *slika* 'picture' in (3.66) for two reasons: (a) to match the parallel example given in (3.63c) and (b) to avoid any complexity that might arise from *picture*-nouns. 56 naïve native speakers of Serbian judged the two sentences. The example containing a quantifier, (3.66), was given an average judgment of 1.6 whereas the example without a quantifier, (3.63c), was given an average judgment of 2.5 on a 7-point scale.[42] These findings certainly pose challenge for Bošković's proposal. Not only are the examples rated highly unacceptable (as opposed to Bošković's reported ratings) but there is a slight improvement in the acceptability rate in the opposite direction of what Bošković reports: the presence of a quantifier causes the sentence to be less unacceptable.

There is another caveat regarding the N-complement extraction of structurally case-marked NPs. Bailyn (1995) observes that extraction of genitive case-marked NPs (or, in Bošković's terms: structurally case-marked NPs) which are complements of N is illicit in Russian. However, Rappaport (2001) claims that the impossibility of the extraction Bailyn discusses has nothing to do with the genitive case per se but is rather due to the lack of the execution of morphological conversion rule. Rappaport claims that the rule is active in both Russian and Polish. In particular, he claims that the unacceptability of (3.67) below stems from the fact that the genitive case-marked pronoun *kto* 'of whom' did not undergo the morphological rule of converting into the possessive *czyj* 'whose'.

---

[42]Polish counterparts of Serbian (3.66) and (3.63c) are both equally unacceptable, according to my informant, Barbara Tomaszevicz, p.c.

(i) **Tego studenta znalazłam wiele/dziesięć książek.*
   that student found many/ten books
   'I found many/ten books of that student.'   (POLISH)

(ii) **Tego studenta znalazłam książkę.*
   that student found book
   'I found a book of that student.'

Rappaport (2001) reports that N-complement extraction in Polish is unacceptable regardless of the case assigned to the complement. He does however add that there are exceptions to this and some complement extractions are licit.

(3.67) (taken from Rappaport (2001), p26, ex (39))

    *$Kogo_i$ *ukradles* *ksiazke* [t_i]*?*
    who.**GEN** stole   book
    'Of whom did you steal a book?'   (POLISH)

The very same issue regarding Serbian is discussed in Schoorlemmer (2012). The author argues, similarly to Rappaport (2001), that genitive forms (*koga* 'of whom') are blocked by existing possessive forms (*čiji* 'whose'). The claim is that the possessive formation is obligatory if it can apply and that it precedes the genitive assignment. Hence, if there is a possessive form of an otherwise genitive case-assigned N-complement, the possessive form must be morphologically derived if the element is to be extracted. The following observation is provided as supporting evidence for such a claim: extraction of the NP containing a structurally case-marked complement (3.68b) is as unacceptable as the extraction of the structurally case-marked complement alone (3.68a).[43]

(3.68) (taken from Schoorlemmer (2012) pp 1&4, exs (1) and (6) respectively)

    a) *$Koga_i$ *je*   *Petar* *sreo* [*prijatelja* t_i]
       who.**GEN** AUX Petar met friend
       'Whom did Petar meet a friend of?'   (SERBIAN)

    b) *[*Prijatelja* *koga*]$_i$ *je*   *Petar* *sreo* t_i*?*
       friend   who.**GEN** AUX Petar met
       'A friend of whom did Petar meet?'

The unacceptability of the two examples is attributed to the same source: there are competing possessive forms of the genitives. The condition that Schoorlemmer imposes is that possessive forms must be derived. Since the condition is not obeyed, the sentences are unacceptable. In other words, the badness of (3.68a) has nothing to do with the fact that it is a structurally case-marked N-complement out of which extraction is taking place (as

---

[43]There is nothing in Bošković's theory that can account for the unacceptability of (3.68b).

Bošković argues) but rather that there is a competing possessive form of it. The possessive counterparts of the two examples are given below:

(3.69) ((3.69a) is taken from Schoorlemmer (2012), p5, ex (11))

   a) *Čijeg*ᵢ   *je*   *Petar* *sreo* [tᵢ *prijatelja*]*?*
      whose.**POSS** AUX Petar met   friend
      'Whose friend did Petar meet?'   (SERBIAN)

   b) [*Čijeg*   *prijatelja*]ᵢ *je*   *Petar* *sreo* tᵢ*?*
      whose.**POSS** friend   AUX Petar met
      'Whose friend did Petar meet?'

Furthermore, Schoorlemmer observes, if there is no competing possessive form, extractions of genitive case-marked N-complements are licit. Unlike the structurally case-marked N-complement *koga* 'of whom' in (3.68b), the structurally case-marked N-complement *kojeg svog saradnika* 'which of his co-workers' in (3.70) does not have a corresponding possessive form, rendering the sentence acceptable.

(3.70) (taken from Schoorlemmer (2012), p2, ex (3))

   [*Kojeg*   *svog*   *saradnika*]ᵢ   *je*   *Petar* *sreo* [*prijatelja* tᵢ]*?*
   which.**GEN** self.**GEN** co-worker.**GEN** AUX Petar met   friend
   'Which co-worker did Petar meet a friend of?'   (SERBIAN)

To sum up, the data we have seen so far show that the generalization, as put forth by Bošković, regarding the general impossibility on N-complement extraction of structurally case-marked NPs cannot be on the right track. It has been shown that there is considerable variation in acceptability of such examples among naïve native speakers of Serbian and that there is an interaction of competing possessive forms and acceptability of their genitive counterparts. We have also seen that the presence of a quantifier does not seem to improve acceptability of the extraction, contrary to Bošković's claim.

As far as inherently case-marked N-complements are concerned, Bošković reports that both Deep LBE and AE are acceptable as well as complement extraction. Driven by my native speaker intuitions (which are in opposition with the ones reported in Bošković) about the acceptability of the examples involving Deep LBE (3.64a), Deep AE (3.64b) and N-complement extraction of inherently case-marked NPs (3.64c), I included these examples as fillers in one of the Serbian acceptability judgment study I conducted. What I have found is the following: (a) the example illustrating Deep LBE, (3.64a), was given an average judgment of 1.6 (n=56) on a 7-point scale, (b) the example illustrating Deep AE, (3.64b), was given an average judgment of 2.5 (n=56), (c) the example illustrating the inherently case-marked N-complement extraction, (3.64c), was given an average intermediate judgment of 3.4 (n=56) with a relatively high standard deviation of 1.91, i.e., there seems to be considerable variation among native speakers in acceptability of this example. What the source of it is will not be addressed here. Here again then, the results of the study show that there is controversy in acceptability of the relevant data. As it stands, Bošković's judgments are in opposition to the judgments of other native speakers. Whatever the cause of the detected differences is, they need to be acknowledged and somehow accounted for.

To sum up, in this section, I have presented three challenges to Bošković's proposal. The first one concerns extractions out of definite noun phrases in Serbian. I have shown that Bošković's original claim that the differences in the Definiteness Effect observed for English and Serbian stem from the differences in nominal structure is incompatible either with his view of NP phasehood in Serbian or his uniform treatment of LBE and AE. As such, it introduces challenges to his proposal which need to be addressed. Second, I questioned the uniform treatment of LBE and AE, as advocated by Bošković, by testing (in a 7-point scale acceptability judgment study) how these two phenomena behave with respect to CED. The central hypothesis tested was the following: familiar subject/object asymmetries should be

detected for both LBE and AE if they are indeed instances of direct extraction. The findings of the acceptability judgment study show that AE conforms to CED whereas LBE does not. That is, LBE does not exhibit one of the characteristic properties of direct extraction operations. Such findings suggest that AE involves extraction whereas LBE does not. Finally, I looked more closely into the data Bošković offers to argue that structurally case-marked N-complements exhibit different behavior as far as extractions are concerned than the inherently case-marked N-complements. I have shown that the acceptability of examples involving extractions (out) of structurally case-marked N-complements varies (as argued by Bašić (2004)). The variation in acceptability is further argued to relate to the competing possessive forms, which are obligatory when available (Schoorlemmer (2012)). It has also been shown that the presence of a quantifier/numeral does not improve the acceptability of the extractions, pace Bošković (to appeara). Similarly, extractions out of inherently case-marked N-complements are shown to be either unacceptable or border-line acceptable according to the findings of the acceptability judgment study. These results are in opposition to what Bošković claims. The controversies regarding the acceptability status of these extractions hence need to be acknowledged and addressed.

3.3.2 Challenges for the LBE and AE Generalizations

In this section I will first present data from a few languages that challenge the LBE and AE generalizations as defined in (3.13) and (3.14) above, repeated below as (3.71) and (3.72):

(3.71) Only languages without articles may allow LBE.

(3.72) Only languages without articles may allow adjunct extraction from TNPs [Traditional Noun Phrase].

The generalizations are one-way correlations, i.e., languages that have articles disallow LBE and AE but languages without articles do not necessarily allow them. Therefore,

as Bošković notes 'the way to refute the DP/NP analysis [...] is to find a language with determiners that allows adjectival LBE' (Bošković (2005), p4, ft.5). The same holds for AE. I will present data from Homeric Greek, Bulgarian, Macedonian, Timočko-lužnički Serbian and Brazilian Portuguese that show exactly that: they are all languages with articles and allow LBE and/or AE, hence disproving the generalizations.[44]

3.3.2.1 Homeric Greek

One of the languages that challenge the LBE generalization is Homeric Greek.[45] It was the language that had definite articles and, according to the Parameterized DP-Hypothesis, it should not allow LBE. However, this prediction is not borne out. The first two lines of the famous epic poem written in Homeric Greek, the Illiad, contain a counter-example for the LBE generalization.

(3.73) μῆνιν ἄειδε θεὰ Πηληϊάδεω Ἀχιλῆος
     anger.F.ACC.SG sing.IMP.SG god.F.NOM.SG Pelean.M.GEN.SG Achilles.M.GEN.SG
     'sing, goddess, the anger of Peleus's son Achilles

     οὐλομένην, ἣ μυρί᾽ Ἀχαιοῖς ἄλγε᾽ ἔθηκε
     destructive.F.ACC.SG REFL.F.NOM.SG myriad.N.ACC.PL Achaean.M.DAT.PL
     pain.N.ACC.PL bring.PERF.3.SG
     destructive, which brought ten thousand pains on the Achaeans'

The example above is an illustration of two types of left-dislocation. The first one involves the left-dislocation of a noun while an adjective is left in-situ (*destructive anger*). As such, it does not necessarily challenge the LBE generalization since the adjective is not left-dislocated. However, the other one involves the left-dislocation of the adjective/number

---

[44]Given these findings, the generalizations should be better viewed as strong tendencies, which Bošković considers as a viable option (Bošković (2009b), p54, ft.2).

[45]I thank Prof. Mark Aronoff for this observation.

word *myriad/ten thousand* from the noun *pain* and as such presents a challenge to the LBE generalization, as defined in (3.71) above.

3.3.2.2   Bulgarian

Bošković reports that Bulgarian, one of two Slavic languages with definite articles, does not allow LBE[46] and AE, conforming to the generalizations. However, this claim is only partially correct. There are some empirical loopholes that directly bear on the validity of the generalizations. I will present them below.

Bošković is correct in claiming that LBE in Bulgarian is impossible. The example he cites in his work is an instance of an adjectival LBE out of a definite noun phrase, where definiteness is marked with the definite article (as shown in (3.10) above repeated below as (3.74)).[47]

---

[46]See a potential counterexample where the clitic *li* splits the noun phrase (Bošković (2001), Lambova (2003), Franks (2006), Franks and Peti-Stantić (2006)).

[47]Bulgarian definite article cliticizes onto the first constituent within a noun phrase (linearly speaking). Hence, if there is an adjective within the noun phrase (adjectives precede nouns), the article cliticizes onto it. Bašić (2004) however notes that the unacceptability of the example (3.74) might not be due to the presence of DP, as Bošković argues, but rather to an independent factor: the fact that the definite article is cliticized onto the extracted adjective. She shows that it is possible to LB-extract an adjective in Bulgarian if the definite article cliticized onto a noun rather than the adjective. She further notices that the fronting of an adjective without cliticized definite article requires clitic doubling. The following two examples are provided to illustrate the point.

(i) **Nova** *ja prodade kola<u>ta</u> (toj).*
new it sold car.the (he)
'It was new car that he sold.'   (BULGARIAN)

(ii) **Visoki** *gi haresva momičeta<u>ta</u>.*
tall them like girls.the
'It is tall girls that he likes.'
(taken from Bašić (2004), p96, ex (194))

These examples are, however, not instances of adjectival LBE that Bošković is concerned with. When the article is cliticized onto the adjective, which are the cases Bošković discusses, the adjective is a restrictive modifier of the noun. However, when the article is cliticized onto the noun, as in the examples (i) and (ii) above provided by Bašić, the adjective functions as a depictive secondary predicate (Angelina Markova and Boris Harizanov, p.c.). To better illustrate the difference, the translations of the two examples above are respectively: *He sold the car new.* and *He likes the girls tall.* Hence, the examples Bašić discusses do not undermine the LBE generalization.

(3.74) (taken from Bošković (2005), p3, ex (4e))

> *__Novata___i prodade Petko [t_i kola].
> new-the   sold   Petko   car
> 'Petko sold the new car.'   (BULGARIAN)

Bošković does not present any LBE data involving indefinite noun phrases. His theory however predicts that these should not differ from their definite counterparts: 'T[raditional] N[oun] P[hrase]s in languages like English always have the DP layer (regardless of the presence of an article)' (Bošković (2009b), p53). Such a prediction is borne out. Bulgarian disallows LBE out of indefinite noun phrases.[48]

(3.75) *__Nova___i prodade Petko [t_i kola].
new   sold   Petko   car
'Petko sold a new car.'   (BULGARIAN)

As far as AE is concerned, Bošković claims that Bulgarian disallows it. He provides the example in (3.16) above, repeated below as (3.76a), to illustrate the point. However, the judgment Bošković reports is <u>not</u> shared by Bulgarian native speakers I consulted. They find significant difference in acceptability of examples depending whether the extraction is out of noun phrases with or without definite articles. The example (3.76a) is judged as <u>fully</u> acceptable (this is the judgment I am reporting below; it is contrary to what Bošković reports) whereas its counterpart containing the definite article is judged as unacceptable (3.76b). The difference in acceptability directly bears on the presence of the definite article.[49]

(3.76) ((3.76a) is taken from Bošković (2012a), p4, ex (14))

> a) [__Ot__ __koj__ __grad__]_i Petko sreštna [momičeta t_i]?
>   from which city   Petko met   girls
>   'Petko met girls from which city?'   (BULGARIAN)

---

[48]Data are from Angelina Markova and Anastasia Smirnova, p.c.

[49]Data are from Angelina Markova, Anastasia Smirnova and Boris Harizanov, p.c.

160

b) *[**Ot   koj   grad**]ᵢ *Petko   sreštna* [*momičetata* tᵢ]*?*
   from   which   city   Petko   met   girls.the
   'Petko met the girls from which city?'

Dubinsky and Tasseva-Kurktchieva (2014) make the same observation: AE is allowed out of noun phrases that do not contain the definite article in Bulgarian. They show that this restriction holds even when another determiner is present: in (3.77a), there is a determiner *nyakolko* 'several' and in (3.77b), there is a possessive *nejni* 'her'. In both examples AE is acceptable if there is no definite article within a noun phrase.

(3.77) (taken from Dubinsky and Tasseva-Kurktchieva (2014), exs (28)&(29) respectively)

   a) [**Ot   koj   universitet**]ᵢ *sreštna-ha* [*nyakolko*(*-*to*)   *studenti*   tᵢ]*?*
      from   which   university   met-they   several   -the   students
      'From which university did they meet (*the) several students?'

   b) [**Ot   koj   universitet**]ᵢ *sreštna-ha* [*nejni*(*-*to*)   *studenti*   tᵢ]*?*
      from   which   university   met-they   her   -the   students
      'From which university did they meet her students?'   (BULGARIAN)

Therefore, even though Bulgarian LBE data conform to the generalization as defined in (3.71), the AE data calls for re-examination of the generalization in (3.72). The presence of the definite article within a noun phrase seems to be directly related to the AE potentials in Bulgarian.

3.3.2.3   Macedonian

Macedonian is another Slavic language that has definite articles. As such, it is predicted not to allow LBE and AE. Bošković reports in his work that this is indeed the case.

To illustrate the impossibility of LBE in Macedonian, Bošković provides the following example ((3.11) repeated below as (3.78)).

(3.78) (taken from Bošković (2005), p4, ex (5e))

    **Novata*ᵢ *ja prodade Petko* [tᵢ *kola*].
    new-the   it sold   Petko   car
    'Petko sold the new car.'   (MACEDONIAN)

As was the case with Bulgarian, the data reported are selective. The example above contains a definite noun phrase out of which LB-extraction is taking place, where the definiteness is marked with the definite article.[50] The data on LBE from indefinite noun phrases, i.e., noun phrases without the definite article, are however controversial (unlike Bulgarian); i.e., there is variation among native speakers regarding the acceptability of such examples. Some speakers fully accept examples like (4.15) below, while some judge them as being border-line acceptable or unacceptable.[51]

(3.79) **Nova**ᵢ *prodade Petko* [tᵢ *kola*].
     new   sold   Petko   car
     'Petko sold a new car.'   (MACEDONIAN)

Stanković, p.c. claims that LBE is in fact allowed in Macedonian regardless of the presence of the definite article if it appears in the structure which involves topicalization/focus of an adjective and which expresses surprise regarding the characteristic conveyed by the adjective.

(3.80) a) *A be, ti* **golema** *si kupil* [tᵢ *topka*]*?!*
          oh well you big   AUX bought   ball
          'Oh, so you bought a BIG ball?!'   (MACEDONIAN)

---

[50]Like in Bulgarian, it is possible to extract an adjective in Macedonian if the definite article cliticizes onto the noun rather than the adjective:

(i) **Nova** *ja Petko prodade kolata.*
   new it Petko sold car.the
   'Petko sold the car new.'   (MACEDONIAN)

However, such examples involve use of the adjective as a depictive secondary predicate rather than a restrictive modifier. Hence, such examples do not invalidate the LBE generalization.

[51]Data are from Ilina Stojanovska, p.c.

162

b) *A   be,   ti   **golemata**   si   ja   kupil* [t$_i$ *topka*]*?!*
   oh   well   you   big.the   AUX   bought it   ball
   'Oh, so you bought the BIG ball?!'

I will come back to this issue in the next section where I present a Macedonian accept-ability judgment study designed to test this exact issue. What is important to note here though is the fact that some speakers accept LBE out of indefinite noun phrase and that this finding challenges the LBE generalization.

As far as AE is concerned, Bošković claims that Macedonian disallows it, on a par with Bulgarian. He however does not provide any Macedonian examples to illustrate the claim. Given this drawback, I decided to test the acceptability of AE out of both definite and indefinite noun phrases in Macedonian. I ran a 7-point scale acceptability judgment study, whose details I will provide in a later section. For our current purposes though, it is important to note that the results from the study show that Macedonian allows AE, both out of noun phrases with and without definite articles. The following two examples are taken from the study; they were given an average judgment of 5.09 and 4.75 on a 7-point scale respectively (n=44).[52]

(3.81)   a) [***Od   koj   grad***]$_i$ *Nikola   zapozna* [*student*   t$_i$]*?*
            from   which   city   Nikola   met   student
            'From which city did Nikola meet a student?'   (MACEDONIAN)

         b) [***Od   koj   grad***]$_i$ *Nikola   go   zapozna* [*studentot*   t$_i$]*?*
            from   which   city   Nikola   it   met   student.the
            'From which city did Nikola meet the student?'

These data are hence in sharp opposition to the generalization given in (3.72). Mace-donian allows AE from noun phrases with and without definite articles (unlike Bulgarian, where AE is restricted to noun phrases without definite articles).

---

[52]Stanković (2013) reports that Macedonian allows AE from noun phrases without definite articles but not from noun phrases with definite articles.

Macedonian data hence show that both LBE and AE generalizations do not apply in their entirety to it. As such, they call for re-evaluation of the generalizations.

3.3.2.4   Timočko-lužnički Serbian

Timočko-lužnički Serbian (TL Serbian) is a dialect spoken in Southeastern Serbia, in the area bordering Bulgaria. Given its geographical proximity to Bulgaria, it comes as no surprise that this dialect, unlike standard Serbian, has a definite article. As such, it is predicted by the generalizations in (3.71) and (3.72) to disallow LBE and AE. This prediction is only partially correct though.

Stanković (2013) reports that the acceptability of both LBE and AE in TL Serbian crucially depends on the definiteness of the noun phrase.[53] That is, if the noun phrase contains a definite article, the extractions are illicit whereas if the noun phrase lacks a definite article, they are fine. The examples in (3.82) illustrate LBE and the examples in (3.83) illustrate AE.

(3.82) (taken from Stanković (2013), ex (1c))

    a) **Skupa**$_i$ *je*   *videl*   [t$_i$ *kola*].
        expensive   AUX   seen   car
        'He saw an expensive car.'   (TL SERBIAN)

    b ***Skupata**$_i$ *je*   *videl*   [t$_i$ *kola*].
       expensive.the   AUX   seen   car
       'He saw the expensive car.'

(3.83) (taken from Stanković (2013), ex (2c))

    a) [**Iz**   **koji**   **grad**]$_i$ *je*   *Ivan upoznal* [*devojće* t$_i$]?
        from   which   city   AUX   Ivan   met   girls
        'Ivan met girls from which city?'   (TL SERBIAN)

---

[53]I am cautious here with the use of the term 'definite'. Stanković provides only examples of noun phrases containing definite articles. There are no illustrations of other definite determiners. These need to be tested in order to have a full paradigm and correct descriptive generalization of the facts.

b *[***Iz*** ***koji*** ***grad***]ᵢ *je* *Ivan* *upoznal* [*devojćete* tᵢ]*?*
  from   which city   AUX Ivan met   girls.the
  'Ivan met the girls from which city?'

However, Stanković, p.c. informs me that LBE is in fact allowed in TL Serbian regardless of the presence of the definite article if used in the structure which involves topicalization/focus of an adjective and which expresses surprise regarding the characteristic conveyed by the adjective (just like in Macedonian).

(3.84) a) *A* *be,* *ti* *si* ***golema*** *kupil* [tᵢ *kola*]*?!*
          oh well you AUX big   bought   car
          'Oh, so you bought a BIG car?!'   (TL SERBIAN)

      b) *A* *be,* *ti* *si* ***golemata*** *kupil* [tᵢ *kola*]*?!*
          oh well you AUX big.the   bought   car
          'Oh, so you bought the BIG car?!'

Data from TL Serbian hence pose a challenge to the LBE and AE generalizations. Along with the Bulgarian and Macedonian data presented above, TL Serbian data suggest that for AE instances there is a correlation between the extraction potentials and the definiteness of a noun phrase involved, where the definiteness is marked with the definite article. LBE data, on the other hand, seems to be allowed across the board.

3.3.2.5 Brazilian Portuguese

Brazilian Portuguese (BP) is a language that Bošković does not discuss in his work. However, since the language has articles (both definite and indefinite), it is predicted by the generalizations in (3.71) and (3.72) to disallow both LBE and AE. Such a prediction is again only partially correct.

As the example (3.85) shows, it is not the case that BP disallows LBE. LBE out of noun phrases that contain either indefinite (3.85a) or definite (3.85b) articles is equally acceptable, contradicting the LBE generalization.[54]

---

[54]All data are from Carolina Petersen, p.c.

(3.85) a) ***Caro***ᵢ   *Pedro   comprou* [*um* tᵢ *carro*].
        expensive Pedro bought   a   car
        'Pedro bought an expensive car.'   (BRAZILIAN PORTUGUESE)

    b) ***Caro***ᵢ   *Pedro   comprou* [*o*   tᵢ *carro*].
        expensive Pedro bought   the   car
        'Pedro bought the expensive car.'

On the other hand, AE is disallowed regardless of the article used in a noun phrase: AE out of noun phrases containing an indefinite (3.86a) or definite (3.86b) article is equally unacceptable. This finding conforms to the AE generalization.

(3.86) a) *[***De   que   cidade***]ᵢ *Pedro   conhece* [*garotas* tᵢ]*?*
           from which city   Pedro meet   girls
           'Pedro met girls from which city?'

    b) *[***De   que   cidade***]ᵢ *Pedro   conhece* [*as   garotas* tᵢ]*?*
           from which city   Pedro meet   the girls
           'Pedro met the girls from which city?'   (BRAZILIAN PORTUGUESE)

Therefore, the data from BP challenges the LBE generalization whereas it conforms to the AE generalization.

To sum up, in this section I presented data from Homeric Greek, Bulgarian, Macedonian, Timočko-lužnički Serbian and Brazilian Portuguese, which, to different extents, challenge LBE and/or AE generalizations as defined in (3.71) and (3.72). The counterexamples to the LBE generalization come from Homeric Greek, Macedonian, TL Serbian and BP. It has been shown that LBE out of noun phrases without definite articles is acceptable to various degrees in Macedonian while fully acceptable in Homeric Greek, TL Serbian and BP. Furthermore, it has been shown that BP allows LBE out of noun phrases with definite articles as well. The counterexamples to the AE generalization are detected in Bulgarian, Macedonian and TL Serbian. Bulgarian and TL Serbian allow AE out of noun phrases without definite articles while Macedonian allows AE out of noun phrases with and without definite articles. All

these data suggest that the two generalizations need to be re-examined. Further investigation of the phenomena involving other languages will certainly help in formulating the correct descriptive generalization regarding the LBE and AE potentials cross-linguistically. The generalizations, as currently defined, do not successfully track cross-linguistic data.

3.3.3 Some Controversial Data

In this section I will show some data that raise questions regarding the LBE and AE exemplars of the generalizations as reported in the works of Bošković and his followers. I will look at three languages without (definite) articles: Slovenian, Russian and Polish. The data from these languages do not invalidate the generalizations (none of them are required to allow LBE and AE) but they do show that reports made in Bošković's works are controversial. First, I present Slovenian acceptability judgment study, which shows that LBE is disallowed in this language (Hladnik (2009)), contrary to the reports made in Bošković (2009b). In that work, Bošković claims that Slovenian allows LBE and takes this empirical observation as evidence that only languages with <u>definite</u> articles disallow LBE (Slovenian has indefinite but no definite articles). Second, Bošković (2005) and Bošković (2008b) claim that Russian and Polish, languages without articles, allow AE. A closer look at the relevant data, as reported in Rappaport (2001) for Polish and Bailyn (2012) for Russian shows that AE, in both of these languages, is very much the same as AE in English: it is largely disallowed. There are few exceptional cases, which Bošković falsely presents as being exemplar.

3.3.3.1 Slovenian and LBE

Slovenian, Bošković reports, is 'a typologically rather interesting language which has indefinite but not definite articles' (Bošković (2009b), p53). He examines how such a language behaves with respect to the generalizations concerning article- and article-less languages. Among the generalizations examined is the LBE generalization. Bošković reports that LBE

is possible in Slovenian.[55] In a footnote though, he adds that 'L[eft]B[ranch] is often not as good in Slovenian as in S[erbo]C[roatian] [...] though still much better than in English' (ibid, p69, ft.21). The following example illustrates the point ((3.12) repeated below as (3.87)):[56]

(3.87) (taken from Bošković (2009b), p70, ex (37e))

Visoke_i *je* *videl* [t_i *študente*].
tall   is   seen   students
'He saw tall students.'   (SLOVENIAN)

This observation was taken upon by Marko Hladnik (p.c.) who ran an acceptability judgment study testing the acceptability of LBE in Slovenian (Hladnik (2009)).[57] The study was in a form of a questionnaire, which was deployed electronically. Participants were asked to judge the acceptability of the relevant structures on a 5-point scale.[58] The (LB-)extracted elements included attributive adjectives (3.88a), demonstratives (3.88b), possessives (3.88c) and *wh*-words (3.88d). The author collected some personal information about the partici-

---

[55]It is worth noting that Bošković (2009b), p53, ft.1 reports that the Slovenian judgments are from Franc Marušič (also checked with Rok Žaucer) while in a recent talk, the two Slovenian linguists explicitly claim that LBE is impossible in Slovenian, illustrating the observation with the following example:

(i) *[**Kako podroben**]_i *si zahteval* [t_i *spisek*]*?*
    how detailed   AUX requested   list
    'How detailed did you request a list?'   (SLOVENIAN)
    (taken from Marušič and Žaucer (2014), p8, ex(26))

[56]Runić (2013) discusses Resian, a Slovene dialect spoken in Italy, that has 'reached the most advanced stage in the grammaticalization of the definite article'. That is, the demonstrative *te* 'that' looks like it is being used as a definite article in this dialect. Runić shows that it shares characteristics of both definite articles and demonstratives and essentially argues that it cannot be an instance of D. One piece of evidence for such a claim comes from the observation that Resian allows LBE, which, if *te* were a definite article, would be a violation of the LBE generalization.

(i) **Taa najmlojša** *si vidla sina, në taa najstarajša.*
    TE youngest AUX seen son not TE oldest
    'I saw (his) youngest son, not the oldest one.'   (RESIAN)

[57]Franks and Peti-Stantić (2006) report that splitting of a noun phrase in Slovenian is not acceptable.
[58]Some of the sentences in the questionnaire were exactly the same as the ones reported in Bošković (2009b).

pants: their age, sex, occupation, parents' background and the region of Slovenia they grew up in. 71 naïve native speakers of Slovenian participated in the study.

(3.88)   a) ***Visoke*ᵢ** *je*   *videl* [tᵢ *hiše*].
tall   AUX seen   houses
'He saw tall houses.'

   b) ***One*** *je*   *nabral* [tᵢ *hruške*].
those AUX picked   pears
'He picked those pears.'   (SLOVENIAN)

   c) ***Janezove*** *je*   *kupil*   [tᵢ *sanke*].
Janez.POSS AUX bought   sledge
'He bought Janez's sledge.'

   d) ***Koliko***   *je*   *vzel* [tᵢ *jabolk*]?
how.many AUX taken   apples
'How many apples did he take?'

The results of Hladnik's study reveal that LBE in Slovenian is largely unacceptable, contrary to the reports made in Bošković (2009b). The structures in which an (LB-)extracted element was an attributive adjective were unanimously rated 1 (unacceptable). Structures involving demonstratives and possessives were largely rated as unacceptable; less than 2% of the participants rated them higher than 1. As far as structures with *wh*-words are concerned, there was some variability in the acceptance of some of them: *kateri* 'which' was rated acceptable 3.5% of the time; *čigav* 'whose' 10% of the time; *kakšen* 'what kind of' 12% and *koliko* 'how much/many' 23%[59]. The overall conclusion that the author draws is 'as is evident from the results, most LBE constructions in Slovene are degraded, if not downright ungrammatical' (Hladnik (2009), p4).

---

[59]Hladnik provides some explanations as to what factors might have influenced the acceptability of the examples with the *wh*-word *koliko* 'how much/many'.

(3.89) RESULTS OF THE SLOVENIAN LBE STUDY (HLADNIK (2009))

		% ACCEPTANCE
ATTRIBUTIVE ADJS		0
DEMONSTRATIVES		< 2
POSSESSIVES		< 2
WH-WORDS	*kateri* 'which'	3.5
	čigav 'whose'	10
	kakšen 'what kind of'	12
	koliko 'how much/many'	23

These findings, as already mentioned, do not pose a challenge for the LBE generalization per se. If we assume that languages with only <u>indefinite</u> articles fall into the group of languages <u>with articles</u>, as stated in the generalization, then Slovenian conforms to the generalization; i.e., it disallows LBE. If, on the other hand, we assume that only languages with definite articles disallow LBE (as Bošković argues in Bošković (2009b) and his subsequent work), then Slovenian may but do not need to allow LBE. The data again conforms to this prediction. What the findings from Hladnik's study however do, is raise questions regarding the data used as exemplars on which Bošković builds the generalizations: he uses Slovenian data to argue that it is only languages with <u>definite</u> articles that disallow LBE (i.e., only languages with definite articles project DP, which blocks LBE; indefinite articles are located in some other projection). There is a schism in the acceptability judgments of the data as reported in Bošković (2009b) and Hladnik (2009). These difference, whatever the cause of them, need to be acknowledged. Less controversial data should be used to illustrate the generalizations.

3.3.3.2 Polish and Russian and AE

Bošković (2008b) reports that Polish, as an example of an article-less language, allows AE (p102, ft.4). Rappaport (2001), on the other hand, reports the opposite: Polish (largely) does

not allow AE. He actually argues that AE is disallowed in Polish as much as it is disallowed in English. The following example illustrates the similarity between the two languages with respect to AE potentials.[60] It is impossible to extract the adjunct *where* from the noun *books* in English, as shown in (3.90a); it is likewise impossible to do the same in Polish, as shown in (3.90b).

(3.90) (taken from Rappaport (2001), pp12-13, exs (12) and (15) respectively)

    a) *Where$_i$ are you selling [books t$_i$]?

    b) *Gdzie$_i$ kupiles [ksiazke t$_i$] u Prószynskiego?
       where   bought   book   at Prószynski
       'Where did you buy a book at the Prószynski book store?'   (POLISH)

       Answer*: Na tamtym stole.*
               on   that   table
      Answer: 'On that table.'

Rappaport, however, notes that there are some instances of acceptable AE in Polish but, he argues that these instances are exceptions. The following two examples are provided.[61]

(3.91) (taken from Rappaport (2001), p14, ex (18))

    a) [Od   kogo]$_i$ czytasz [list   t$_i$]?
       from whom you.read letter
       'From whom are you reading [a letter t]?'   (POLISH)

    b) [Z   kim]$_i$ nagrywasz [rozmowy   t$_i$]?
       with whom you.record conversation
       'With whom are you recording [a conversation t]?'

---

[60]Rappaport shows that extractions of PP adjuncts and bare NP adjuncts are subject to the same restrictions.

[61]Rappaport tries to assimilate such examples with English exceptions, though English exceptional cases involve relative clauses rather than interrogatives.

(i) *The actor, about whom John read* [*a book* t]...
(ii) *The car in which you like* [*the gears* t]...
   (taken from Rappaport (2001), p15, ex (19))

To account for the exceptional cases, Rappaport claims, following Horn (1974) and Bach and Horn (1976), that there is in fact no proper extraction from NP. The apparent extractions, as shown in (3.91) above, are not extractions out of NPs but are rather instances of NP restructuring, i.e., an adjunct from an NP moves from being an NP constituent to a VP constituent. From that position, the adjunct can be extracted. In other words, adjuncts can be extracted only when they modify the verbal action, and not when they modify the noun.[62]

The precise conditions of the restructuring phenomenon are however unclear. Rappaport discusses two potential conditions. One condition is the choice of a verb. That is, whether AE can take place depends on the verb used in a sentence. The following two examples illustrate how a verb change interacts with the acceptability of AE in Polish. Compare the acceptability of (3.91) above with the unacceptability of (3.92) below.

(3.92) (taken from Rappaport (2001), p15, ex (21))

    a) *[*Od*   *kogo*]$_i$ ***zniszczyles*** [*list*   t$_i$]?
       from whom you.destroyed letter
       'From whom did you destroy [a letter t]?'   (POLISH)

    b) *[*Z*   *kim*]$_i$ ***starles***   *na tasmie* [*rozmowe*   t$_i$]?
       with whom you.erased on tape   conversation
       'With whom did you erase on tape [a conversation t]?'

Another condition imposed on restructuring is that the noun whose adjunct is to be extracted (i.e., restructured), must be adjacent to the verb that the adjunct is going to become a constituent of.[63] Compare (3.91a) above with (3.93) below. The former is acceptable since the noun (*list* 'letter') out of which the adjunct moves is adjacent to the verb (*czytasz* 'read') whereas the latter is unacceptable since there is an intervening noun *koniec* 'end' between the noun *list* 'letter' and the verb *czytasz* 'read'.

---

[62]Though it is unclear how the adjunct in (3.91a) modifies the verb.
[63]Note that this condition is violated in (3.92b).

(3.93) (taken from Rappaport (2001), p15, ex (22a))

*[*Od   kogo*]ᵢ **czytasz** [*koniec* **listu** tᵢ]*?*
  from whom you.read end   letter
  'From whom are you reading the end of the letter?'   (POLISH)

Note, however, that the example (3.93) is unacceptable under Bošković's account as well: it is an instance of Deep AE, which is disallowed out of structurally case-marked N-complements. Hence, the unacceptability of this particular example that Rappaport associates with the adjacency phenomenon can be attributed to the general ban on Deep AE. To show Rappaport's point though, I am citing another example from his paper that illustrates the adjacency requirement without violating any other restrictions: in (3.94) below, the noun (*chlopca* 'boy') and the verb (*postrzelili* 'shoot') are separated by an adjunct (*prized domem* 'in front of the house'). The sentence is thus unacceptable since it violates the adjacency requirement.

(3.94) (taken from Rappaport (2001), p13, ex (16a))

*[*Z   czym*]ᵢ *postrzelili* **przed**   **domem**   [*chlopca* tᵢ]*?*
  with   what   shot   in.front.of house   boy
  'With what did they shoot [a boy t] in front of the house?'   (POLISH)

The conclusion Rappaport draws from these data is that AE is disallowed in Polish just like it is in English. 'Apparent exceptions have undergone a restructuring rule at either syntactic or lexical level, dependent on the choice of lexical verb and a proximate structural position to that verb, such that no extraction from NP is in fact involved' (Rappaport (2001), p16).

Building on Rappaport's insights, Bailyn (2012) reports that Russian does not differ from Polish in any relevant respect. Some exceptional cases of AE exist (3.95a) whereas generally AE is disallowed (3.95b,c).

(3.95) (taken from Bailyn (2012), pp63-64, ft.18 and ex(64) respectively)

a) [*O čem*]$_i$ *ty pišeš'* [*knigu* t$_i$]*?*
about what you write book
'What are you writing a book about?' (RUSSIAN)

b) *[*Kogda*]$_i$ *ty opisyvaeš* [*demonstraciju* t$_i$]*?*
when you describe demonstration
'When are you describing a demonstration?'

c) *[*S kakimi volosami*]$_i$ *ty učiš'* [*studentov* t$_i$]*?*
with which hair you teach students
'With what kind of hair are you teaching students?'

He further shows that, just like in Polish, the choice of a verb interacts with the AE acceptability in Russian. Compare (3.95a) above with (3.96) below.

(3.96) (taken from Bailyn (2012), p64, ft.18)

*[*O čem*]$_i$ *ty* **prodal** [*knigu* t$_i$]*?*
about what you sold book
'What did you sell a book about?' (RUSSIAN)

Russian and Polish AE data presented here do not contradict the AE generalization: neither of the two languages is required to allow it. However, the data suggest that detailed examination of the phenomenon in question is required before any descriptive generalization can be drawn. The restrictions imposed on the extraction, as discussed by Rappaport and Bailyn, need to be acknowledged.

To sum up, in this section I presented some challenging data for Bošković's proposal (DP/NP analysis) and LBE and AE generalizations. I also presented some controversial data concerning the exemplars reported in Bošković's work.

As far as Bošković's proposal is concerned, I have discussed issues that arise with respect to the uniform treatment of LBE and AE advocated in his work, NP phasehood and his proposed analysis of Deep LBE, Deep AE and N-complement extraction. Three challenges are discussed: (a) definiteness/specificity effect, (b) Condition on Extraction Domain and (c) some detailed data from Deep LBE, Deep AE and N-complement extraction. Bošković claims that the differences in the Definiteness Effect observed for English and Serbian stem from the differences in nominal structure of the two languages, i.e., English has a DP, Serbian does not, so only the latter allows extraction out of an NP without violating PIC or anti-locality. However, the data that Bošković builds his observation on raise two questions. The first one concerns the status of the extracted PP in the Serbian example he uses to illustrate the lack of the Effect. Bošković himself changes his opinion on what the relevant phrase is: N-complement or adjunct. Each of the views bring complexities to the proposal. If the PP is N-complement, there is an inconsistency with the phasehood of Serbian NP he proposes (that is, if NPs are phases then the extraction of an N-complement should be illicit); on the other hand, if the PP is an adjunct, which is his latest view on the issue, then the uniform treatment of LBE and AE he advocates does not seem to be correct. Further evidence against his uniform treatment of LBE and AE comes from the acceptability judgment study which tested the CED effects in LBE and AE (Jurka (2010)). The hypothesis tested was the following: if LBE and AE are indeed instances of direct extractions, familiar subject/object asymmetries (CED) should be detected. The results show that AE shows relevant asymmetries whereas LBE does not. Such findings suggest that AE is extraction but LBE is not. In other words, the results cast serious doubt on the uniform treatment of the two phenomena. Finally, I took a closer look at the data Bošković provides to argue that there are differences in extraction potentials (out) of structurally and inherently case-marked NPs, which he attributes to the differences in NP-phasehood and/or NP-structure involved. He claims that Deep LBE, Deep AE and N-complement extraction (out) of structurally case-marked NPs is illicit while it is fine out of inherently case-marked NPs. I have

175

shown that the data he uses to support this claim are controversial. In particular, I showed that the acceptability of extractions out of structurally case-marked NPs varies considerably (as reported in Bašić (2004) and confirmed by the findings of the acceptability judgment ratings), that the presence of a quantifier or numeral does not improve the acceptability (pace Bošković (to appeara)) and that the acceptability of such extractions interacts with competing possessive forms (Rappaport (2001), Schoorlemmer (2012)). As far as extractions out of inherently case-marked NPs are concerned, the acceptability judgment study revealed that judgments as reported in Bošković (to appearb) are in opposition to the judgments of 56 naïve native speakers that participated in the study. Such findings need to be acknowledged and taken into consideration when proposing an account.

We have also seen that there are challenges for the LBE and AE generalizations, as defined in (3.71) and (3.72). Data from Homeric Greek, Macedonian, Timočko-lužnički Serbian and Brazilian Portuguese show that LBE is allowed in languages with articles. LBE data from Macedonian is controversial and need further investigation but it shows that, at least for some speakers, LBE out of noun phrases without definite articles is acceptable. LBE data from TL Serbian illustrates that the extraction potential relates to the presence/absence of the definite article within a noun phrase. That is, LBE out of noun phrases with definite articles is unacceptable while LBE out of noun phrases without definite articles is acceptable. Brazilian Portuguese shows no restrictions as far the presence of the definite article is concerned: LBE is acceptable across the board. As far as AE data is concerned, we have seen that Bulgarian and TL Serbian allow AE out of noun phrases without definite articles while Macedonian allows AE across the board. These data provide straightforward evidence against the generalizations and call for their re-examination.

Finally, I presented some controversial data on LBE in Slovenian and AE in Polish and Russian. The controversies do not challenge the generalizations per se but they do question the validity of some exemplars as reported in works of Bošković and his followers. Bošković examines Slovenian, a language that has indefinite but no definite articles. He reports that

LBE is allowed in Slovenian. From these two facts (lack of definite articles and possible LBE), Bošković deduces that only languages with definite articles project DP. This entails that, for his proposal to work, it must be the case that only languages with definite articles disallow LBE. However, Slovenian LBE data as reported in Bošković (2009b) is in sharp opposition to the findings of Hladnik's controlled acceptability judgment study, which tested how acceptable LBE structures are in Slovenian (Hladnik (2009)). The results of the study show that Slovenian disallows LBE. The differences in acceptability of the relevant data as reported in Bošković (2009b) and Hladnik (2009) hence need to be acknowledged and accounted for. Similar issue is detected for Polish and Russian AE data. Bošković reports that Polish and Russian allow AE (Bošković (2005), Bošković (2008b)) whereas Rappaport (2001) and Bailyn (2012) report the opposite. In particular, the latter group of authors claim that there are some apparent acceptable cases of AE but that these are in fact not instance of extractions from noun phrases. The claim is that AE is possible when it modifies the verbal action rather than the noun. Hence, the examples Bošković uses as exemplars of AE phenomenon in Polish and Russian are rather exceptions, which are in fact argued not to involve extraction from an NP at all. Controversial data of this type lead us to the next chapter in which I present five controlled acceptability judgment studies designed to resolve some controversies regarding the LBE and AE data.

3.4 Acceptability Judgment Studies: Serbian and Macedonian

In this section, I will present five acceptability judgment studies: three in Serbian and two in Macedonian.[64] Several issues led to the execution of these studies. As we have seen in the discussion above, there are controversial reports in the literature on LBE and AE data that the corresponding generalizations and theories are built on. For instance, we have seen that

---

[64] The Macedonian studies are conjoined work with Ilina Stojanovska.

Bošković reports lack of the Definiteness Effect for Serbian AE[65], while Bašić (2004) reports the opposite. Likewise, Bošković (2005) claims that both LBE and AE are disallowed in languages with articles, whereas Dubinsky and Tasseva-Kurktchieva (2014) and Stanković (2013) report that Bulgarian and Timočko-lužnički Serbian, for instance, do not conform to such a generalization. Furthermore, it has been shown that the LBE and AE data in both Serbian and Macedonian, as reported in Bošković (2005) and his subsequent work, is rather selective. There is little or no discussion on LBE and AE out of Serbian noun phrases that contain D-like elements other than demonstratives. Likewise, there is little or no discussion of LBE and AE out of Macedonian noun phrases with and without definite articles and other determiners. The Parameterized DP-Hypothesis makes strong predictions about such data but the data is not offered/discussed. Also, we have seen that there are disagreements as far as LBE and AE predictions of the Parameterized DP-Hypothesis for Macedonian are concerned: Parameterized DP-Hypothesis predicts that both LBE and AE should be disallowed, whereas naïve native speakers allow AE while there is variation in acceptability of LBE from noun phrases without definite articles.

The detected differences in acceptability of the reported data are worrisome especially since it seems to be the case that the acceptability of the relevant data is often theory-biased, corresponding to the predictions of an analysis argued for. Wasow (1972) offers a pretty good insight into the problem of this kind

> [...] when different informants differ in their judgments regarding the grammaticality of a sentence, it is not necessarily an indication of dialect or "idiolect" differences. This is especially true when the speakers in question are linguists with competing theories to defend. In general, such situations arise because of the marginal character of the data. The fact that supposed dialect differences among linguists so often correlate with differences in theoretical orientation is a good indication that it is frequently not simply a matter of dialects. This is not, of course, to deny that genuine dialects exist. However, there is a tendency among generative grammarians to attribute confusion regarding marginal and unreliable data to dialect differences. Instead of worrying so much about

---

[65]Note that the claim is that the Effect is <u>often</u>, not always, relaxed in Serbian though the relevant conditions are not specified (Bošković (2008b) and Bošković (2012b)).

dialects, linguists would be better off trying to find clearer examples on which to base their analyses. (Wasow (1972), p14)

One way of resolving the confusion of this kind is to run a controlled acceptability judgment study with naïve (non-biased by linguistic theories) native speakers of a language. Such a way of collecting data helps us get a clearer picture of what the state of affairs with particular data really is. As shown above, a quick survey of the literature on LBE and AE cross-linguistically leaves quite a few open questions. The data are not uniform across different research papers and many factors that might have intervened with the judgments of particular examples were not controlled for. The theoretical claims regarding the universality of the DP projection are based on these data. And if the data are not agreed upon, one might wonder what the relevance of the theoretical proposals that revolve around such data are. The goal of the acceptability judgment studies reported here is to try and resolve some of the data controversies detected and discussed above. It is beyond the scope of the studies to address all of the controversies. I will focus on LBE and AE from noun phrases with and without various D-like elements in Serbian and LBE and AE from noun phrases with and without definite articles and various D-like elements in Macedonian. The two languages are predicted by the Parameterized DP-Hypothesis to exhibit different extraction potentials since Serbian arguably does not project DP whereas Macedonian does. The studies also complement the literature with the new data that have either not been discussed so far or have been only briefly mentioned. I will first present Serbian studies and then Macedonian.

3.4.1   Serbian

The generalizations on LBE and AE are one-way correlations; as such, they make no predictions about article-less languages. Serbian, as an exemplar of such languages, is hence not required to allow LBE and AE, though it might. As we have seen above, Bošković and his followers claim that Serbian in fact allows both. We have also seen that there are certain restrictions imposed on these extractions. For instance, LBE out of noun phrases

containing demonstratives is impossible while AE out of noun phrases with demonstratives is arguably licit, Deep LBE/AE and complement extractions out of structurally case-marked N-complements are impossible whereas they are acceptable if from genitive of quantification NPs (nouns with non-agreeing quantifiers) and inherently case-marked NPs. For each of these restrictions, a proposal is provided to track the data. However, the relevant data that these proposals are built on is often selective (i.e., some relevant paradigms are missing) and controversial.

First, even though there is no reported controversy regarding the LBE from noun phrases that contain demonstratives, this is not the case for AE. That is, AE from noun phrases with demonstratives[66] are claimed by Bošković to be often licit whereas Bašić claims the opposite. The first acceptability judgment study tests how LBE and AE interact with the presence of a demonstrative within a noun phrase.

Second, the claim that adjectival LBE from noun phrases with demonstratives is unacceptable raises the question of the LBE acceptability in the presence of other D-like elements. Bošković provides an account to track the former but does not even discuss the latter.[67] The second acceptability judgment study tests exactly these cases: adjectival LBE in the presence of different types of D-like elements. Additionally, we look if there are any differences in LBE acceptability in the presence of agreeing and non-agreeing D-like elements. In particular, Bošković argues that agreeing D-like elements are adjectives/adjective-like elements or NP-adjuncts in Serbian (i.e., they exhibit the behavior of ordinary adjectives as discussed in §Chapter 2; one such characteristic is morphological agreement with the noun; hence, the term *agreeing*) while non-agreeing D-like elements head their own projection, QP (Bošković (to appeara), based on work of Babby (1987), Franks (1994), Bošković (2006b),

---

[66]I take Bošković's most recent view of PPs as adjuncts (compare Bošković (2008b) and Bošković (to appeara)).

[67]Bošković (2005) however allows himself a leeway by saying: 'I assume that not all L[eft]B[ranch]C[ondition] violations should necessarily be analyzed in the same way' (p4, ft.5). He does claim though that his account holds for adjectival LBE. Hence, it should track all agreeing determiners, given that adjectives and agreeing determiners are treated the same (as adjectives/adjective-like elements) in his system.

Despić (2009)). The different syntactic positions assigned to the two types of D-like elements could interact with the LBE potentials from noun phrases containing them. Agreeing D-like elements are subject to the Ban on Double AP LBE (two adjectives/NP adjuncts are equally distant from a position to which they can move and they are featurally non-distinct) while non-agreeing D-like elements are not. Hence, LBE out of noun phrases with agreeing Ds should be impossible. The Ban on Double AP LBE also predicts that LB-extraction of either attributive adjective or agreeing D-like element should be equally disallowed. These predictions are tested. In the second study, we test LBE of attributive adjectives in the presence of agreeing Ds whereas in the third study, we test LBE of agreeing Ds in the presence of attributive adjectives. As far as non-agreeing Ds are concerned, Bošković (to appeara) actually argues that in addition to Q, in which non-agreeing Ds are, there is a projection between a QP and an NP. This additional projection, dubbed FP, he claims, is responsible for special case-assignment. The existence of this projection entails that LBE from such nominal structure should be licit (the extraction conforms to PIC and anti-locality). This prediction is tested in the study.

As far as AE is concerned, it is again the case that Bošković does not discuss AE from noun phrases containing any other D-like elements but demonstratives. The prediction the Parameterized DP-Hypothesis makes is that AE should be equally acceptable in such structures. Elements undergoing AE are all PPs, adjoined to NP, and regardless of the presence of other D-like elements in the structure (agreeing or non-agreeing Ds), they should be extractable. If there are agreeing Ds in the structure, they are NP adjoined; hence, PPs can be extracted without violating PIC or anti-locality. If there are non-agreeing Ds in the structure, there are QP and FP projections above the NP that the PPs are adjoined to, so again, no violation should occur.

These predictions are summarized in the tables below. The elements in bold letters are the ones that are undergoing extraction:

(3.97) PARAMETERIZED DP-HYPOTHESIS: LBE POTENTIALS IN SERBIAN

	LBE
[Dem **ADJ** N]	*
[AgreeingD **ADJ** N]	*
[Non-AgreeingD **ADJ** N]	√
[**AGREEINGD** Adj N]	*
[**NON-AGREEINGD** Adj N]	√

(3.98) PARAMETERIZED DP-HYPOTHESIS: AE POTENTIALS IN SERBIAN

	AE
[Dem N **PP**]	(often) √
[AgreeingD N **PP**]	√
[Non-AgreeingD N **PP**]	√

3.4.1.1   Design and Methodology

3.4.1.1.1   LBE/AE and Demonstrative

In the first study, we tested if the presence of a demonstrative correlates with the acceptability of structures involving LBE and AE. We manipulated the factor $+/-$DEMONSTRATIVE, yielding the following two conditions for each type of extraction:

(3.99) **LEFT BRANCH EXTRACTION**

a) $-$DEMONSTRATIVE

Vrednog *je   Jovana   upoznala   studenta.*
diligent   AUX   Jovana   met   student
'Jovana met a/the diligent student.'

b) +Demonstrative

> **Vrednog** *je* *Jovana* *upoznala* **tog** *studenta.*
> diligent   AUX   Jovana   met   that   student
> 'Jovana met that diligent student.'

(3.100) **Adjunct Extraction**

a) −Demonstrative

> **Iz**   **kojeg** **grada** *je*   *Nikola* *upoznao* *studenta?*
> from   which   city   AUX   Nikola   met   student
> 'Nikola met a/the student from which city?'

b) +Demonstrative

> **Iz**   **kojeg** **grada** *je*   *Nikola* *upoznao* **tog** *studenta?*
> from   which   city   AUX   Nikola   met   that   student
> 'Nikola met that student from which city?'

Six lexicalizations of each condition for both types of extractions were constructed and grouped into two Latin square lists. The items for both types of extractions were lexically matched; i.e. a set of critical items had the same main verb, noun phrase out of which extractions were taking place and a demonstrative. The LBE examples were always in a form of a statement while AE examples were always in a form of a question. The reason we did this was to replicate the structures used in the literature: LBE is illustrated with examples involving an extraction of an attributive adjective in a form of a statement (cf. (3.9a) above) while AE is illustrated with examples involving an extraction of a PP forming a question (cf. (3.15a) above). Special care was taken when choosing lexical items to avoid interpretations of a PP as an adjunct of a verb rather than an adjunct of an object NP. The template for the two conditions and two types of extractions is the following:

(3.101) **Left Branch Extraction**

    a) $\boxed{\text{\$\textbf{AdjP}}}$ AUX \$Noun1 \$Verb \$Noun2.

    b) $\boxed{\text{\$\textbf{AdjP}}}$ AUX \$Noun1 \$Verb $\boxed{\text{\$\textbf{Demonstrative}}}$ \$Noun2.

(3.102) **Adjunct Extraction**

    a) $\boxed{\text{\$\textbf{PP}}}$ AUX \$Noun1 \$Verb \$Noun2?

    b) $\boxed{\text{\$\textbf{PP}}}$ AUX \$Noun1 \$Verb $\boxed{\text{\$\textbf{Demonstrative}}}$ \$Noun2?

Each participant was presented with 24 critical items (6 items per condition for each type of extraction) and 24 filler items of all levels of acceptability. 98 naïve native speakers of Serbian participated in the study online.

3.4.1.1.2   LBE/AE and Agreeing/Non-Agreeing Ds

In the second study, we tested the acceptability of LBE and AE from noun phrases containing agreeing and non-agreeing determiners (or, D-like elements).[68] We manipulated the factor Agreeing/Non-Agreeing D, yielding the following two conditions for each type of extraction:

(3.103) **Left Branch Extraction**

    a) <u>Agreeing Determiner</u>

        Vredne *je*   *Jovana* *upoznala* ***sve*** *studente.*
        diligent AUX Jovana met   all   students
        'Jovana met all diligent students.'

    b) <u>Non-Agreeing Determiner</u>

        Vrednih *je*   *Jovana* *upoznala* ***deset*** *studenata.*
        diligent   AUX Jovana met   ten   students
        'Jovana met ten diligent students.'

---

[68]For the sake of simplicity, I will use the term *determiner* to refer to numerals as well.

(3.104) **ADJUNCT EXTRACTION**

    a) <u>AGREEING DETERMINER</u>

        Iz   ***Zrenjanina*** *je*   *Nikola* *upoznao* ***svakog*** *studenta.*
        from   Zrenjanin   AUX   Nikola   met   each   student
        'Nikola met every student from Zrenjanin.'

    b) <u>NON-AGREEING DETERMINER</u>

        Iz   ***Zrenjanina*** *je*   *Nikola* *upoznao* ***deset*** *studenata.*
        from   Zrenjanin   AUX   Nikola   met   ten   students
        'Nikola met ten students from Zrenjanin.'

Six lexicalizations of each condition for both types of extractions were constructed and grouped into two Latin square lists. The items for both types of extractions were lexically matched; i.e. a set of critical items had the same main verb and a noun phrase out of which extractions were taking place. Unlike the first study, all items were in a form of a statement (both LBE and AE). We wanted to test if there is any difference in acceptability of AE if it is in a form of a question or a statement. The template for the two conditions and two types of extractions is the following:

(3.105) **LEFT BRANCH EXTRACTION**

    a) $\boxed{\textbf{\$ADJP}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$AGREEINGD}}$ \$NOUN2.

    b) $\boxed{\textbf{\$ADJP}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$NON-AGREEINGD}}$ \$NOUN2.

(3.106) **ADJUNCT EXTRACTION**

    a) $\boxed{\textbf{\$PP}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$AGREEINGD}}$ \$NOUN2.

    b) $\boxed{\textbf{\$PP}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$NON-AGREEINGD}}$ \$NOUN2.

The agreeing determiners that we used were: *svaki* 'each', *neki* 'some', *jedan* 'one', *mnogi* 'many' and *svi* 'all'; and, the non-agreeing determiners were: *nekoliko* 'some', *mnogo* 'many', *puno* 'a lot of' and numbers: *tri* 'three', *pet* 'five' and *deset* 'ten'.[69]

Each participant was presented with 24 critical items (6 items per condition for each type of extraction; 1 or 2 items per agreeing D and 1 item per non-agreeing D per extraction type) and 24 filler items of all levels of acceptability. 56 naïve native speakers of Serbian participated in the study online.

3.4.1.1.3 LBE of Agreeing/Non-Agreeing Ds

In the third study, we tested the acceptability of LBE of agreeing and non-agreeing determiners in the presence of attributive adjectives. That is, this study complements the LBE data from the first and second study, where the extracted elements were attributive adjectives. In this study, the extracted elements were not attributive adjectives but agreeing and non-agreeing Ds. We manipulated the factor +/-DEMONSTRATIVE and AGREEING/NON-AGREEING D, yielding the following four conditions:

(3.107) LEFT BRANCH EXTRACTION

a) −DEMONSTRATIVE

Vrednog *je* *Jovana* *upoznala* *studenta.*
diligent AUX Jovana met student
'Jovana met a/the diligent student.'

---

[69]These numbers were chosen randomly. What was important for us was that the numbers assign genitive case to nouns they appear with. All numbers that contain number 1, such as 21 or 101 as well as number 1 itself behave like adjectives in that they agree with a noun in gender and case. Numbers 2, 3 and 4 assign genitive singular to a noun and numbers 5 and above assign genitive plural.
Bošković (2008a), in the discussion on genitive of quantification in Russian, also addresses genitive of quantification in Serbian and says: 'I suggest that the AP pattern is the only option for *one* (i.e. *one* only has the adjectival form), while the QP option is the only option for higher numerals (i.e. they don't have adjectival forms; in fact, they don't decline, in contrast to As/Ns' (p275). If there is indeed a difference in the structure between the numeral *jedan* 'one' and higher numerals, such as *pet* 'five', the extraction data should hence show that.

b) +DEMONSTRATIVE

Tog *je* *Jovana* *upoznala* **vrednog** *studenta.*
that AUX Jovana met diligent student
'Jovana met that diligent student.'

c) AGREEING DETERMINER

Svakog *je* *Jovana* *upoznala* **vrednog** *studenta.*
each AUX Jovana met diligent student
'Jovana met every diligent student.'

d) NON-AGREEING DETERMINER

Deset *je* *Jovana* *upoznala* **vrednih** *studenata.*
ten AUX Jovana met diligent students
'Jovana met ten diligent students.'

Six lexicalizations of each condition were constructed and grouped into a Latin square list. All items lexically matched the relevant items from the first and the second study (LBE+demonstrative, LBE+AgreeingD and LBE+Non-AgreeingD respectively). The items were also lexically matched; i.e. a set of critical items had the same main verb and a noun phrase out of which extractions were taking place. All items were in a form of a statement. The template for the four conditions is the following:

(3.108) **LEFT BRANCH EXTRACTION**

a) $\boxed{\textbf{\$ADJP}}$ AUX \$NOUN1 \$VERB \$NOUN2.

b) $\boxed{\textbf{\$DEMONSTRATIVE}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$ADJP}}$ \$NOUN2.

c) $\boxed{\textbf{\$AGREEINGD}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$ADJP}}$ \$NOUN2.

d) $\boxed{\textbf{\$NON-AGREEINGD}}$ AUX \$NOUN1 \$VERB $\boxed{\textbf{\$ADJP}}$ \$NOUN2.

The agreeing and non-agreeing determiners that we used in this study were exactly the same as the ones used in the second study. Agreeing Ds were: *svaki* 'each', *neki* 'some', *jedan* 'one', *mnogi* 'many' and *svi* 'all' (demonstratives are agreeing Ds as well); and, the non-agreeing Ds were: *nekoliko* 'some', *mnogo* 'many', *puno* 'a lot of' and numbers: *tri* 'three', *pet* 'five' and *deset* 'ten'.

Each participant was presented with 24 critical items (6 items per condition) and 24 filler items of all levels of acceptability. 61 naïve native speakers of Serbian participated in the study online.

3.4.1.2 Results

3.4.1.2.1 LBE/AE and Demonstrative

The first acceptability judgment study, testing how the presence of a demonstrative within a noun phrase interacts with acceptability of LBE and AE, showed that for both types of extractions, the presence of a demonstrative decreases the acceptability of the structure. A paired-sample t-test demonstrated that there was a significant difference between LBE instances from noun phrases with and without a demonstratives ($t(97)$=22.352, $p<$.001) and AE instances from noun phrases with and without demonstratives ($t(97)$=7.386, $p<$.001). The means for both conditions and both types of extractions are provided in the table below.

(3.109) MEANS FOR LBE AND AE +/−DEMONSTRATIVE

	−DEMONSTRATIVE	+DEMONSTRATIVE
LBE	5.3	2.22
AE	5.16	4.19

A paired-sample t-test showed that the difference between LBE and AE instances _without_ demonstratives was not significant ($t(97)$=1.050, p=.296) whereas the difference between LBE and AE instances _with_ demonstratives was significant ($t(97)$=-15.862, $p<$.001).

The results of the study are graphically shown below. The blue solid line represents the acceptability rates of LBE and the red solid line represents the acceptability rates of AE from noun phrases with and without demonstratives (shown on the y-axis).

(3.110) LBE and AE $+/-$ DEMONSTRATIVE
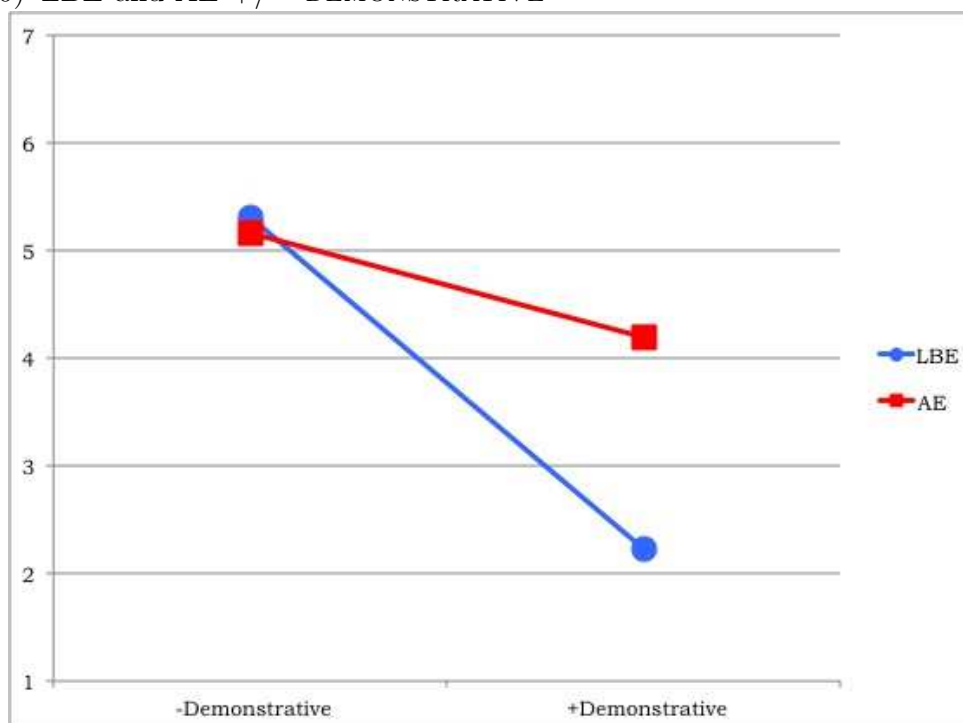
The results of the study hence confirm the unanimous reports made in literature that LBE from noun phrases containing demonstratives is unacceptable. They also show that the apparent acceptability of AE in the presence of demonstratives is not correct. While such examples are certainly not as degraded as the corresponding LBE cases, the degradation in their acceptability is detected. That is, the two extraction phenomenon behave differently in the presence of the demonstrative: LBE cases are unacceptable whereas AE cases are largely border-line acceptable.

3.4.1.2.2 LBE/AE and Agreeing/Non-Agreeing Ds

The second acceptability judgment study, testing LBE and AE in the presence of agreeing

189

and non-agreeing determiners revealed the following: (a) LBE of an attributive adjective in the presence of agreeing or non-agreeing Ds is fairly unacceptable, (b) AE out of noun phrases with agreeing or non-agreeing Ds is border-line or fairly acceptable.

The means of the study are provided in the table below for each of the determiner (agreeing and non-agreeing D) used in both LBE and AE condition.

(3.111) MEANS FOR LBE AND AE +AGREEING/NON-AGREEINGD

		LBE	**AE**
AGREEINGD	*svaki* 'each'	2.95	3.12
	neki 'some'	3.16	3.85
	jedan 'one'	3.05	4.12
	mnogi 'many'	2.68	4.63
	svi 'all'	3.10	4.23
NON-AGREEINGD	*nekoliko* 'some'	3.18	4.61
	mnogo 'many'	2.79	4.96
	puno 'a lot of'	3.17	3.75
	tri 'three'	3.44	4.29
	pet 'five'	3.34	4.32
	deset 'ten'	3.38	3.75

As far as LBE is concerned, repeated measures ANOVA, using the Greenhouse-Geisser correction, showed that the difference between agreeing and non-agreeing Ds approaches significance ($F(7.170, 394.374) = 1.968$, $p = .057$). We have also analyzed two 'matching' Ds: *mnogi* 'many', as an agreeing D, and *mnogo* 'many', as a non-agreeing D. A paired-sample t-test showed that there was no significant difference between the two ($t(55) = -.423$, $p = .674$).

The graph below shows the acceptability rates of LBE from noun phrases containing different types of agreeing Ds (blue solid line) and non-agreeing Ds (red solid line). The determiners are shown on the y-axis.
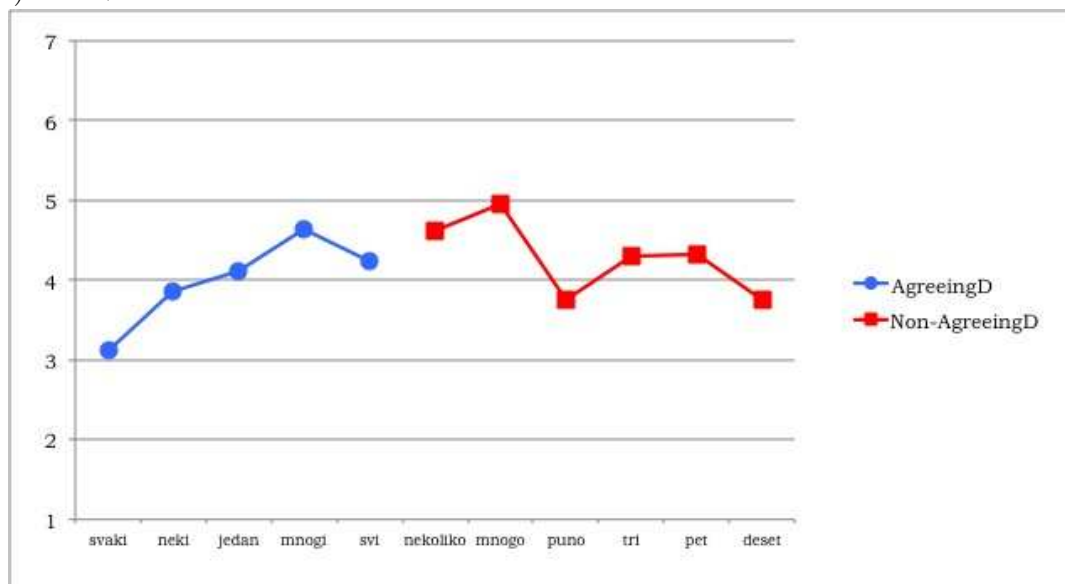
(3.112) LBE +Agreeing and Non-Agreeing Ds
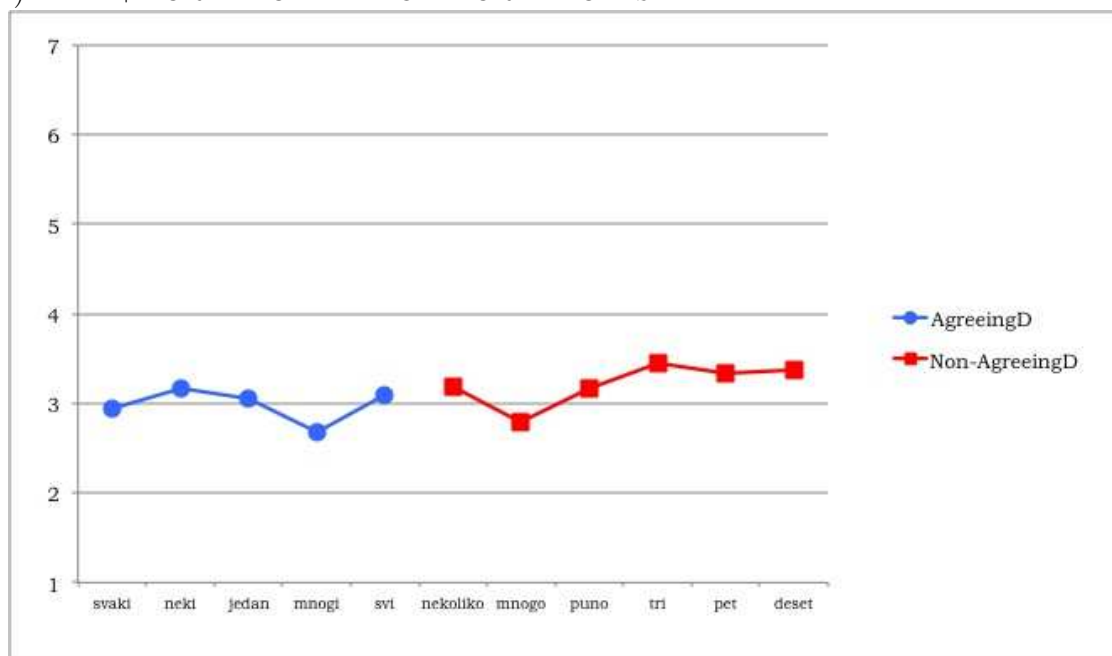
As far as AE is concerned, repeated measures ANOVA, using the Greenhouse-Geisser correction, showed that there was significant difference between agreeing and non-agreeing Ds (F(7.148, 393.145)=6.841, $p<.001$). Additional pairwise comparisons, using Bonferroni correction, indicated that two agreeing Ds and two non-agreeing Ds significantly differ from the rest: *svaki* 'each', *neki* 'some' and *puno* 'a lot', *deset* 'ten' respectively. We have also analyzed the differences in acceptability rates of AE in the presence of an agreeing D *mnogi* 'many' and its non-agreeing counterpart *mnogo* 'many'. A paired-sample t-test showed that there was no significant difference between the two ($t(55)$=-1.243, p=.219).

The graph below shows the acceptability rates of AE from noun phrases containing different types of agreeing Ds (blue solid line) and non-agreeing Ds (red solid line). The determiners are shown on the y-axis.

(3.113) AE + Agreeing and Non-Agreeing Ds

The results of this study show that the presence of agreeing and non-agreeing Ds interacts with the acceptability of both LBE and AE. While LBE cases are rated as fairly unacceptable (means for agreeing Ds and non-agreeing Ds are: $M_{AGRD}=3.05$ vs. $M_{NON-AGRD}=3.25$), instances of AE received better ratings but are still largely border-line acceptable ($M_{AGRD}=4.02$ vs. $M_{NON-AGRD}=4.28$). Four Ds (two agreeing and two non-agreeing) were rated lower than the rest (*svaki* 'each', *neki* 'some' and *puno* 'a lot of', *deset* 'ten'). These findings hence show that both agreeing and non-agreeing Ds, on a par with demonstratives (as shown in the first study), cause LBE to become unacceptable and AE to become less or border-line acceptable (depending on the choice of the determiner). The factor AGREEING/NON-AGREEING does not seem to correlate with the extraction potentials.

3.4.1.2.3 LBE of Agreeing/Non-Agreeing Ds

The third study, testing LBE of agreeing and non-agreeing Ds in the presence of attributive adjectives revealed that these extractions are largely acceptable. There are a few exceptions: *svaki* 'each', *svi* 'all' and *neki* 'some'. These Ds are rated lower than the rest of the Ds, though still higher than their counterparts from the second study.

192

(3.114) MEANS FOR LBE OF AGREEING/NON-AGREEINGDS

NoD		5.34
DEMONSTRATIVE	*taj* 'that'	4.40
AGREEINGD	*svaki* 'each'	3.28
	neki 'some'	4.04
	jedan 'one'	4.48
	mnogi 'many'	4.67
	svi 'all'	3.94
NON-AGREEINGD	*nekoliko* 'some'	4.38
	mnogo 'many'	5.13
	puno 'a lot of'	5.13
	tri 'three'	4.37
	pet 'five'	4.49
	deset 'ten'	4.62

An independent-sample t-test demonstrated that (a) there is no significant difference between the first and the third study in the No D condition, i.e., instances of attributive LBE in which no D (or other attributive adjective) occurs ($t(157)=.185$, $p=.854$), (b) there is no significant difference between the second study and the third study in the AGREEINGD *svaki* 'each' condition ($t(115)=-1.138$, $p=.257$), (c) there is significant difference between the first and the third study in the +DEMONSTRATIVE condition ($t(157)=-12.687$, $p<.001$) and (d) there is significant difference between the second and the third study in all other AGREEING/NON-AGREEING D conditions: *neki* 'some' ($t(115)=-3.920$, $p<.001$), *jedan* 'one' ($t(115)=-5.556$, $p<.001$), *mnogi* 'many' ($t(115)=-10.485$, $p<.001$), *svi* 'all' ($t(115)=-3.207$, $p<.001$), *nekoliko* 'some' ($t(115)=-4.246$, $p<.001$), *mnogo* 'many' ($t(115)=-7.066$, $p<.001$), *puno* 'a lot of' ($t(115)=-7.480$, $p<.001$), *tri* 'three' ($t(115)=-3.382$, $p<.001$), *pet* 'five' ($t(115)=-3.305$, $p<.001$) and *deset* 'ten' ($t(115)=-3.550$, $p<.001$).

The results from the first and second study are graphically compared with the results from the third study below. The color of the line corresponds to AGREEING/NON-AGREEING condition: blue for AGREEING D condition (demonstratives fall into this group and are represented as such), and red for the NON-AGREEING D condition. The type of the line (solid, dotted) corresponds to the elements extracted (solid for adjectives, dotted for (non)-agreeing Ds). The solid blue line shows results from the first (adjectives are LB-extracted in the presence of demonstratives) and the second study (adjectives are LB-extracted in the presence of various agreeing Ds). The dotted blue line shows results from the third study (agreeing Ds are LB-extracted in the presence of attributive adjectives). The solid red line shows results from the second study (adjectives are LB-extracted in the presence of various non-agreeing Ds). The dotted red line shows results from the third study (non-agreeing Ds are LB-extracted in the presence of attributive adjectives). The y-axis presents D conditions.

(3.115) COMPARISON OF LBE CONDITIONS FROM THE 1ST, 2ND AND 3RD STUDY
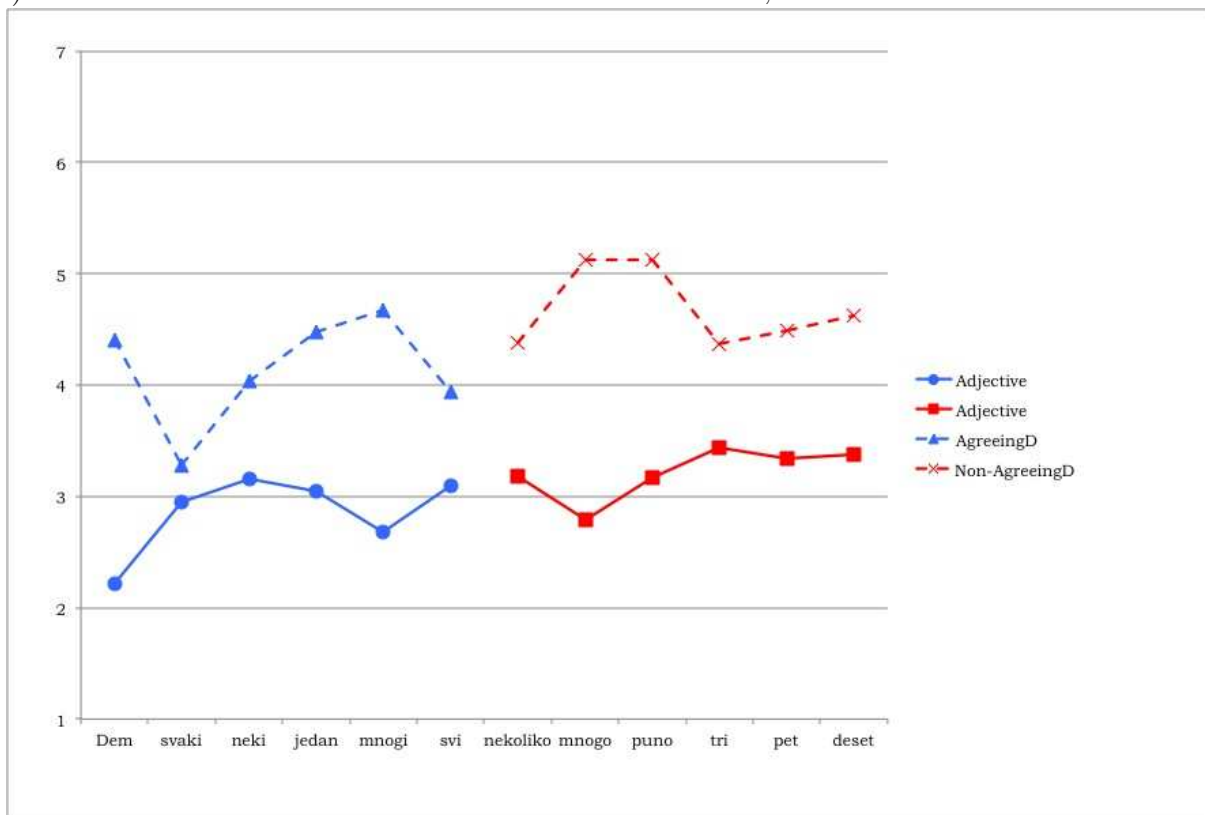
The results of this study show that LBE of both agreeing (except *svaki* 'each') and non-agreeing Ds in the presence of attributive adjectives is largely acceptable. Crucially, they show that there is a difference in acceptability of such instances and the instances of LBE of attributive adjectives in the presence of (non-)agreeing Ds. In other words, it is largely acceptable to LB-extract a (non-)agreeing D even if there is an attributive adjective in a noun phrase whereas to LB-extract an attributive adjective in the presence of a (non-)agreeing D is not.

3.4.1.3 Discussion

The three studies reported above were designed to test: (a) acceptability of LBE and AE from noun phrases containing demonstratives, (b) acceptability of LBE and AE from noun phrases containing different types of determiners and (c) acceptability of LBE of various types of determiners in the presence of attributive adjectives.

As far as LBE is concerned, we have first seen that extraction of attributive adjectives from noun phrases with demonstratives is unacceptable (as predicted by the Parameterized DP-Hypothesis). According to Bošković, there are two possible explanations for this: (a) semantic type of demonstratives, which is such that it blocks any further modification of an entity once the demonstrative semantically composes with it and, (b) ban on Double AP LBE, which states that extraction of a featurally non-distinct element that is equally distant from the position it can be extracted to as another element of the same kind is prohibited. Bošković claims that *wh*- and focus features might render the structures acceptable. Note that in our study, all LBE examples were statements and thus, exclude the presence of a *wh*-feature. Focus feature (at least contrastive focus) is likely excluded given that the study involved reading of the sentences that were presented to participants without any prior context. Informational focus, however, could have been involved.[70]

---

[70]See also Halupka-Rešetar (2011) for a discussion on focus in Serbian. She discusses different types of focus and argues that informational focus is semantically incompatible with a universal quantifier *svaki* 'each'. She also claims that both informational and contrastive focus are mainly articulated by scrambling

Second, we have seen that LBE is likewise unacceptable in the presence of various types of determiners where the difference agreeing/non-agreeing does not play a role. The unacceptability in the presence of an agreeing D is expected (Ban on Double AP LBE); however, the unacceptability in the presence of a non-agreeing D is not, i.e., there is nothing in the structure that prevents the extraction. I am cautious here as to how I use the word *prediction* since Bošković generally makes no predictions about LBE potentials in article-less languages: LBE may be possible. However, he offers an account to track the unacceptability of LBE in the presence of agreeing Ds. This brings the question of why LBE in the presence of non-agreeing Ds is unacceptable as well. As such, it calls for explanation for the proponents of the Parameterized DP-Hypothesis. Note further that no significant difference in LBE potentials in the presence of two 'matching' determiners *mnogi* and *mnogo* 'many' were found. The two quantifiers were used by Despić (2011) to show that the binding relations differ in their presence, which was taken as evidence that the agreeing determiner *mnogi* adjoins to an NP (thus not interacting with the relevant binding relations) whereas the non-agreeing determiner *mnogo* projects its own phrase, QP. The proposed structural difference between the two determiners predicts that the LBE of an attributive adjective in the presence of the agreeing D should be unacceptable (Double AP LBE) whereas LBE of an adjective in the presence of the non-agreeing D should not violate any such restriction. This prediction is falsified in the study.

Lastly, it was shown that LBE of various kinds of agreeing and non-agreeing Ds is acceptable (the exception is the determiner *svaki* 'each'). The finding that agreeing Ds behave this way contradicts their predicted unacceptability due to the Ban on Double AP LBE. Hence, whatever is blocking attributive adjectives to be LB-extracted in the presence of agreeing determiners does not hold in the opposite direction. Such a finding cast serious doubt on the NP-adjunction treatment of determiners on a par with adjectives with no ordering hierarchy involved. It was also shown that the demonstratives can be LB-extracted in the presence

(movement/dislocation of a focused element).

of attributive adjectives unlike the extractions of attributive adjectives in the presence of demonstratives. The Ban on Double AP LBE fails to account for such extractions while Bošković's proposal regarding the semantic type of demonstratives successfully tracks the observed distribution.

As far as AE is concerned, extractions from noun phrases containing demonstratives are shown to be degraded compared to their non-demonstrative counterparts. The acceptability of these examples is approaching border-line. AE from noun phrases containing different types of agreeing and non-agreeing Ds is more or less rated along the same lines: there are few exceptional determiners that are rated higher and a few that are rated lower than the other ones but overall, the ratings show degradation when compared to their non-determiner counterparts. What causes the degradation will not be settled in this work but merely pointed out. Further, no difference in acceptability of examples with agreeing and non-agreeing Ds is detected. These findings are summarized in the tables below.

(3.116) **LBE**: Parameterized DPH Predictions vs. Studies Results

	PREDICTIONS	RESULTS
[Dem **Adj** N]	*	*
[AgreeingD **Adj** N]	*	*
[Non-AgreeingD **Adj** N]	√	*
[**AgreeingD** Adj N]	*	√
[**Non-AgreeingD** Adj N]	√	√

(3.117) **AE**: Parameterized DPH Predictions vs. Studies Results

	PREDICTIONS	RESULTS
[Dem N **PP**]	(often) √	?
[AgreeingD N **PP**]	√	?
[Non-AgreeingD N **PP**]	√	?

197

3.4.2 Macedonian

The generalizations on LBE and AE, as stated in (3.8) and (3.14) above, predict that Macedonian, a language with definite articles, should disallow both LBE and AE. The data reported in the Parameterized DP-Hypothesis literature include only examples in which relevant phrases are extracted from definite noun phrases, where the definiteness is marked with the definite article. As we have already seen in the discussion above, there is a controversy regarding the acceptability of LBE from noun phrases without definite articles while AE from noun phrases with or without definite articles seem to be acceptable. The first study attempts to resolve these controversies and to supplement the literature with the missing data.

Similarly, in the current literature, there is no discussion of either LBE or AE in the presence of determiners other than the definite article. The Parameterized DP-Hypothesis predicts that both extractions from noun phrases with any type of determiner (as well as no determiner) should be equally unacceptable. The presence of the definite article in a language entails the presence of the DP projection, which is directly relevant for blocking LBE and AE. Hence, the overtness of the element located in D should not play any role in the relevant extraction potentials. It is worth noting though that Bošković does not discuss the status of determiners, other than definite articles, in Macedonian. It could be the case that determiners are located in D but, it could also be the case, given the concordial nature of Macedonian determiners (as shown in §Chapter 2), that they are NP adjoined (on a par with Serbian determiners). The latter option, however, does not change the predictions of the Parameterized DP-Hypothesis as far as the extractions are concerned. DP is still above the NP to which the determiners are adjoined, blocking the extractions. The second study is designed to test both LBE and AE potentials in the presence of various types of determiners.

These predictions are summarized in the tables below. The elements in bold letters are the ones that are undergoing extraction:

(3.118) PARAMETERIZED DP-HYPOTHESIS: LBE POTENTIALS IN MACEDONIAN

	LBE
[**ADJ** N]	*
[**ADJ-DEF.ART** N]	*
[D.INDEF **ADJ** N]	*
[D.DEF **ADJ** N]	*

(3.119) PARAMETERIZED DP-HYPOTHESIS: AE POTENTIALS IN MACEDONIAN

	AE
[N **PP**]	*
[N-DEF.ART **PP**]	*
[D.INDEF N **PP**]	*
[D.DEF N **PP**]	*

3.4.2.1 Design and Methodology

3.4.2.1.1 LBE/AE and Definite Article

In the first study, we tested how the presence/absence of the definite article correlates with the acceptability of structures involving LBE and AE. We manipulated the factor +/−DEFINITE ARTICLE, yielding the following two conditions for each type of extraction:

(3.120) **LEFT BRANCH EXTRACTION**

    a) −DEF ARTICLE

        Vreden *Jovana zapozna student.*
        diligent Jovana met   student
        'Jovana met a diligent student.'

b) +DEF ARTICLE

Vredeniot *Jovana go zapozna student.*
diligent.the   Jovana   he   met   student
'Jovana met the diligent student.'

(3.121) **ADJUNCT EXTRACTION**

a) −DEF ARTICLE

Od   koj   grad *Nikola zapozna* <u>*student?*</u>
from   which   city   Nikola   met   student
'Nikola met a student from which city?'

b) +DEF ARTICLE

Od   koj   grad *Nikola go zapozna* <u>*studentot?*</u>
from   which   city   Nikola   he   met   student.the
'Nikola met the student from which city?'

Six lexicalizations of each condition for both types of extractions were constructed and grouped into two Latin square lists. The items for both types of extractions were lexically matched; i.e. a set of critical items had the same main verb and the noun phrase out of which extractions took place. The LBE examples were always in a form of a statement and the AE examples were always in a form of a question, as it was done for the corresponding Serbian study. Special care was taken when choosing lexical items to avoid interpretations of a PP as an adjunct of a verb rather than an adjunct of an object. The template for the two conditions and two types of extractions is the following:

(3.122) **LEFT BRANCH EXTRACTION**

a) ⟨$ADJP⟩ $NOUN1 $VERB $NOUN2.

b) ⟨$ADJP.DEFART⟩ $NOUN1 CL $VERB $NOUN2.

(3.123) **ADJUNCT EXTRACTION**

    a) $\boxed{\textbf{\$PP}}$ \$NOUN1 \$VERB \$NOUN2?

    b) $\boxed{\textbf{\$PP}}$ \$NOUN1 CL \$VERB $\boxed{\textbf{\$NOUN2.DEFART}}$?

Each participant was presented with 24 critical items (6 items per condition for each type of extraction) and 24 filler items of all levels of acceptability. 44 naïve native speakers of Macedonian participated in the study online.

3.4.2.1.2 LBE/AE and (In)Definite Determiners

In the second study, we tested the acceptability of LBE and AE from noun phrases containing different types of determiners.[71] We manipulated the definiteness of a noun phrase containing different determiners (+/−DEFINITENESS), yielding the following two conditions for each type of extraction:

(3.124) **LEFT BRANCH EXTRACTION**

    a) −DEF

        Vreden *Jovana zapozna* **eden** *student.*
        diligent Jovana met   one   student
        'Jovana met a diligent student.'

    b) +DEF

        Vreden *Jovana go zapozna* **onoj** *student.*
        diligent Jovana he met   that   student
        'Jovana met that diligent student.'

---

[71]As was the case with the second Serbian study, for the sake of simplicity, I will use the term *determiner* to refer to numerals as well.

(3.125) **Adjunct Extraction**

    a) −Def

        Od   **Ohrid** *Nikola zapozna* **pet** *studenti.*
        from   Ohrid   Nikola   met   five   students
        'Nikola met five students from Ohrid.'

    b) +Def

        Od   **Ohrid** *Nikola go zapozna* **sekoj** *student.*
        from   Ohrid   Nikola   he   met   each   student
        'Nikola met every student from Ohrid.'

Six lexicalizations of each condition for both types of extractions were constructed and grouped into two Latin square lists. The items for both types of extractions were lexically matched; i.e. a set of critical items had the same main verb and a noun phrase out of which extractions were taking place. As in the previous study, in each set of the critical items, the LBE examples contained an attributive adjective and, the AE examples contained a PP. Unlike the first study, all items were in a form of a statement (both LBE and AE). As in the case of the corresponding Serbian study, we wanted to test if there is any difference in acceptability of AE if it is in a form of a question or a statement. The template for the two conditions and two types of extractions is the following:

(3.126) **Left Branch Extraction**

    a) | $**AdjP** | $Noun1 $Verb | $**IndefD** | $Noun2.

    b) | $**AdjP** | $Noun1 cl $Verb | $**DefD** | $Noun2.

(3.127) **Adjunct Extraction**

    a) $\boxed{\text{\$PP}}$ \$Noun1 \$Verb $\boxed{\text{\$\textbf{IndefD}}}$ \$Noun2.

    b) $\boxed{\text{\$PP}}$ \$Noun1 cl \$Verb $\boxed{\text{\$\textbf{DefD}}}$ \$Noun2.

We used quantifiers and numbers in the indefinite conditions and, quantifiers, numbers and demonstratives in the definite condition. The quantifiers and numbers used in the indefinite condition are: *nekoj* 'some', *mnogu* 'many', *nekolku* 'some', *eden* 'one', *pet* 'five' and *sedum* 'seven'. The quantifiers, numbers and demonstratives that we used in the definite condition are: *sekoj* 'each', *mnogute* 'the many', *toj* 'that', *ovoj* 'this', *onoj* 'yonder', *edniot* 'the one', *trite* 'the three', *pette* 'the five' and *sedumte* 'the seven'.

Each participant was presented with 24 critical items (6 items per condition for each type of extraction) and 24 filler items of all levels of acceptability. 140 naïve native speakers of Macedonian participated in the study online.

3.4.2.2   Results

#### 3.4.2.2.1   LBE/AE and Definite Article

The first acceptability judgment study showed that LBE is unacceptable from noun phrases containing definite articles whereas the acceptability slightly increases when the noun phrase does not contain the definite article. Cases of AE, on the other hand, are shown not to be sensitive to definiteness. In fact, AE from both definite and indefinite noun phrases are acceptable. A paired-sample t-test demonstrated that there was a significant difference between LBE from noun phrases with and without definite articles ($t(43){=}2.707$, $p{=}.01$). The same test demonstrated that there was no significant difference between AE from definite and indefinite noun phrases ($t(43){=}.297$, $p{=}.77$). The means for both conditions and both types of extractions are provided in the table below.

(3.128) Means for LBE and AE +/−Def Article

	−Def Article	+Def Article
LBE	2.22	1.72
AE	4.72	4.66

The results of the study are graphically shown below. The blue solid line represents acceptability rates of LBE and the red solid line represents the acceptability rates of AE from noun phrases with and without definite articles (shown on the y-axis).

(3.129) LBE and AE +/− Def Article
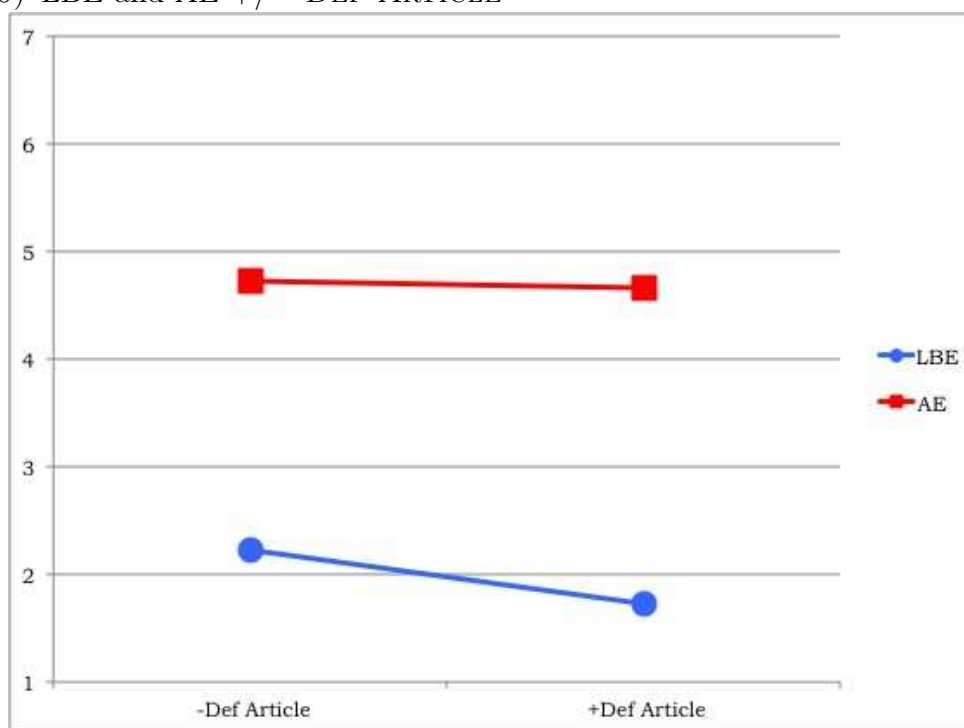
The results of the study hence show that the presence of the definite article does not interact with the acceptability judgments of either LBE or AE: LBE is unacceptable whereas AE is acceptable across the board.[72] It is worth noting that the study involved reading

---

[72]A closer look at the LBE data reveals that there is a tendency for some speakers to accept LBE if the noun phrase is without the definite article.

sentences without any prior context, which might have a direct consequence on the results gained. Ilina Stojanovska, p.c., informs me that LBE from both definite and indefinite noun phrases are acceptable for her given the right context. This is in line with the findings of Stanković as reported in 4.3.2.2. above. His claim is based on corpus research. A follow-up study testing LBE cases in a relevant context needs to be run to settle the issue.

3.4.2.2.2   LBE/AE and (In)Definite Determiners

The second acceptability judgment study, testing LBE and AE in the presence of definite and indefinite determiners showed that both extractions are largely unacceptable (the only exceptional determiner is number *pet* 'five' in AE indefinite condition (M=4.13)).

The means of the study are provided in the table below for each of the determiner (indefinite and definite) used in both LBE and AE condition.

(3.130) MEANS FOR LBE AND AE +INDEFD/DEFD

		LBE	AE
INDEFD	*nekoj* 'some'	2.22	3.01
	mnogu 'many'	2.03	2.88
	nekolku 'some'	2.01	3.01
	eden 'one'	1.71	3.05
	pet 'five'	2.44	4.13
	sedum 'seven'	2.82	3.32
DEFD	*sekoj* 'each'	1.95	2.62
	mnogute 'the many'	1.97	3.38
	toj 'that'	1.91	3.79
	ovoj 'this'	1.74	2.75
	onoj 'yonder'	1.85	2.65
	edniot 'the one'	1.40	2.95
	trite 'the three'	1.39	2.35
	pette 'the five'	2.05	2.69
	sedumte 'the seven'	1.41	2.68

As far as LBE is concerned, repeated measures ANOVA, using Greenhouse-Geisser correction, showed that there is a significant difference among indefinite determiners ($F(4.263, 592.565)=16.316$, $p<.001$). Additional pairwise comparisons, using Bonferroni correction, indicated that *sedum* 'seven' differs from all determiners but *pet* 'five'; *pet* 'five' differs from *nekolku* 'some' and *eden* 'one' and, *eden* 'one' differs from *nekoj* 'some'. The same test demonstrated that there is a significant difference among definite determiners ($F(5.399, 750.433)=13.602$, $p<.001$). Additional pairwise comparison, using Bonferroni correction, showed that *edniot* 'the one', *trite* 'the three' and *sedumte* 'the seven' differ from all other determiners.

206

The graph below shows the acceptability rates of LBE from indefinite (blue solid line) and definite (red solid line) noun phrases containing different types of determiners (shown on the y-axis).
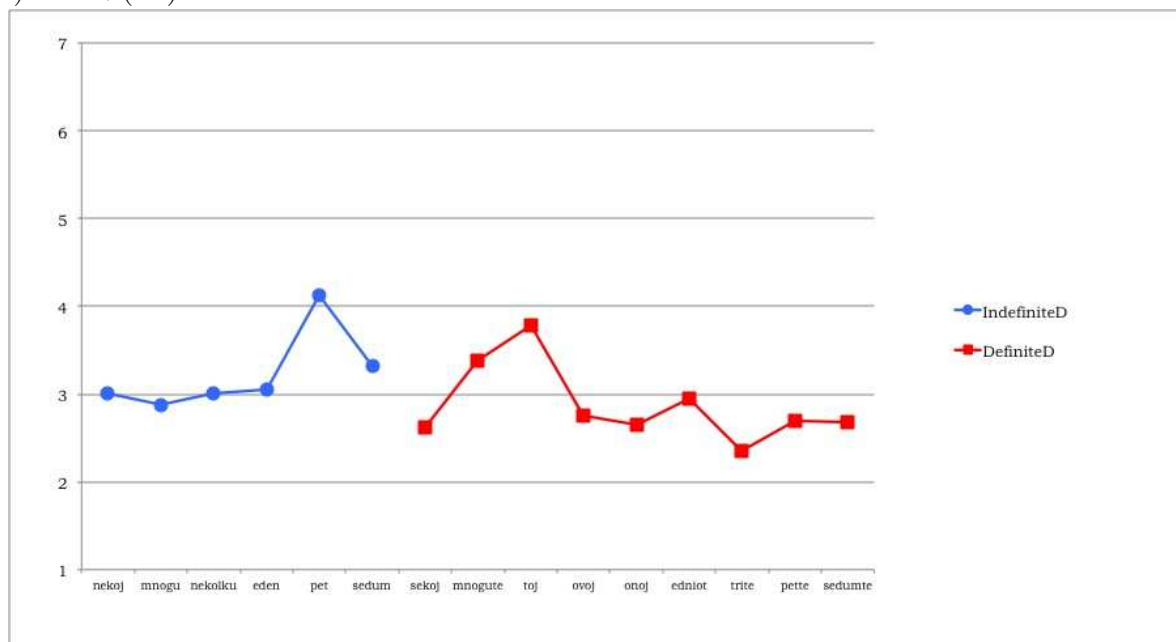
(3.131) LBE +(In)Definite Determiners
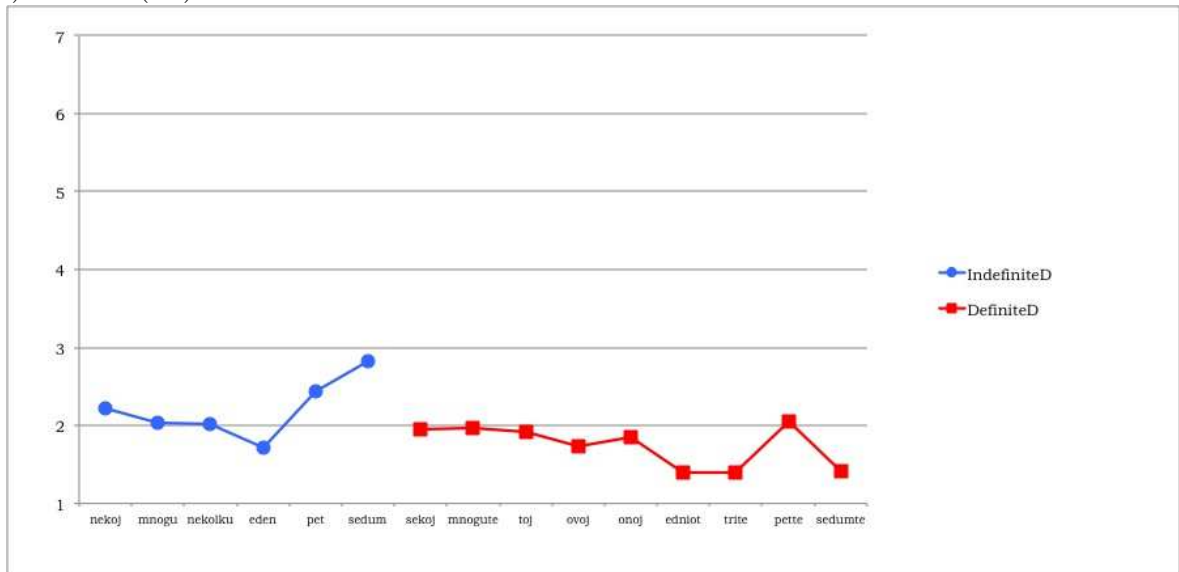
As far as AE is concerned, repeated measures ANOVA, using Greenhouse-Geisser correction, demonstrated that there is a significant difference among indefinite determiners $(F(3.880, 539.285)=18.110, p<.001)$. Additional pairwise comparisons, using Bonferroni correction, showed that *pet* 'five' differs from all other determiners and that *sedum* 'seven' differs from *nekoj* 'some'. The same test demonstrated that there is a significant difference among definite determiners $(F(5.804, 806.767)=18.446, p<.001)$. Additional pairwise comparison, using Bonferroni correction, showed that *mnogute* 'the many' differs from all determiners but *toj* 'that' and *edniot* 'the one' and that *toj* ''that' differs from all determiners but *mnogute* 'the many'.

The graph below shows the acceptability rates of AE from indefinite (blue solid line) and definite (red solid line) noun phrases containing different types of determiners (shown on the y-axis).

207

(3.132) AE +(In)Definite Determiners

The results of this study show that LBE and AE from noun phrases that contain definite or indefinite determiners is largely unacceptable. Even though there are rate differences among different determiners (both definite and indefinite), the overall assessment is such that the extractions are unacceptable under these conditions.

3.4.2.3 Discussion

The two studies reported above tested (a) the acceptability of LBE and AE from noun phrases with and without definite articles and (b) acceptability of LBE and AE from noun phrases containing a range of indefinite and definite determiners respectively.

As far as LBE is concerned, we have seen that extraction of attributive adjectives from noun phrases with and without definite articles is largely unacceptable (as predicted by the Parameterized DP-Hypothesis): regardless of the overtness of the definite article in a particular noun phrase, DP is projected, blocking the extraction. A closer look at the results showed that there is a tendency to rate extractions from noun phrases without the definite

208

article higher than the ones with the definite article. Some speakers rated the former as acceptable/border-line acceptable while the latter were rated unacceptable across the board.

The findings of the first study as far as LBE cases are concerned, are in opposition to Stanković's reports as well as native judgments by Ilina Stojanovska (the collaborator on the study). As already mentioned, the differences in acceptability might be directly related to the fact that the study reported here involved rating of sentences out of context whereas Stanković's research is corpus-based and Ilina's judgments are given when relevant sentences are put in a context. Therefore, a follow-up study of LBE sentences with given contexts should be run.

In the second study, we have seen that the LB-extraction of attributive adjectives from noun phrases containing different types of definite and indefinite determiners is largely unacceptable. Such a finding conforms to the Parameterized DP-Hypothesis, which predicts that DP is present in the language regardless of the definiteness of the determiner within a noun phrase.

As far as AE is concerned, in the first study we have seen that extractions from noun phrases with and without definite articles are acceptable. This finding is contrary to the predictions of the Parameterized DP-Hypothesis. Therefore, these data call for explanation. In the second study though, we have seen that extractions from noun phrases containing different types of indefinite and definite determiners are largely unacceptable. The definiteness of a noun phrase from which the extraction is taking place does not play a role. Such a finding is in accordance with the Parameterized DP-Hypothesis. The differences in AE potentials in the conditions tested in the two studies show that whatever allows and blocks AE in Macedonian cannot be absence/presence of DP projection.

These findings are summarized in the tables below.

(3.133) **LBE**: Parameterized DPH Predictions vs. Studies Results

	PREDICTIONS	RESULTS
[**Adj** N]	*	*
[**Adj-def.art** N]	*	*
[D.indef **Adj** N]	*	*
[D.def **Adj** N]	*	*

(3.134) **AE**: Parameterized DPH Predictions vs. Studies Results

	PREDICTIONS	RESULTS
[N **PP**]	*	√
[N-def.art **PP**]	*	√
[D.indef N **PP**]	*	*
[D.def N **PP**]	*	*

To sum up, in this section I presented five acceptability judgment studies: three in Serbian and two in Macedonian. The studies were designed to test acceptability of LBE and AE in various conditions in the two languages with a goal of resolving some of the controversies reported in the literature and complementing the literature with the relevant missing data. Proponents of the Parameterized DP-Hypothesis claim that Serbian and Macedonian drastically differ with respect to LBE and AE potentials given that the former does not project DP and the latter does. This claim has been challenged to some extent in the literature (Pereltsvaig (2007b), Bašić (2004), Stanković (2013)). However, no controlled acceptability judgment study has been reported so far that would objectively evaluate the controversies associated with the relevant data. The studies reported in this section hence attempt to resolve this drawback.

The three studies in Serbian tested acceptability of the following: (a) adjectival LBE and AE from noun phrases with and without demonstratives, (b) adjectival LBE and AE from noun phrases with agreeing and non-agreeing determiners and (c) LBE from noun phrases with agreeing and non-agreeing determiners (demonstratives included) and attributive adjectives where the elements extracted are determiners themselves.

The first study tested the controversies regarding AE in the presence of a demonstrative as well as unanimous disallowance of LBE under the same condition. The findings show that AE instances in the presence of demonstratives are degraded but not unacceptable while the unacceptability of LBE instances in the same condition is confirmed.

The second study tested the predictions (in the relevant sense, see the discussion above) of the Parameterized DP-Hypothesis as far as extractions from noun phrases with various types of determiners are concerned. The prediction is that LBE in the presence of agreeing determiners should be unacceptable (Double AP LBE) while acceptable in the presence of non-agreeing determiners. The findings show that LBE from noun phrases with both agreeing and non-agreeing determiners are unacceptable, casting the doubt on their diverse syntactic positions, as argued by Bošković.

The third study tested whether LBE from noun phrases containing agreeing and non-agreeing determiners (demonstratives included) is generally disallowed or it affects only attributive adjectives. It was shown that LBE of determiners (except the determiner *svaki* 'each') in the presence of attributive adjectives is fairly acceptable. There are slight differences among different determiners but overall, LBE is acceptable. This finding cast serious doubt on the treatment of agreeing determiners as adjective(-like element)s/NP adjuncts with no ordering hierarchy involved (but the one proposed for demonstratives given their semantic type (Bošković (2008b))) as well as the validity of the Ban on Double AP LBE. As such these findings call for explanation.

The two Macedonian studies tested if (un)acceptability of LBE and AE correlates with the

presence of the definite article or other determiners, both definite and indefinite. We found that LBE from noun phrases with and without definite articles is unacceptable but pointed out to a potentially crucial factor that might have caused such results: the sentences rated in the study appeared without any context. Stanković's corpus research show that Macedonian in fact allows LBE given the right context. A follow-up study should be conducted to test such cases.

AE from noun phrases with and without definite articles is predicted to be disallowed by the Parameterized DP-Hypothesis. This prediction is not confirmed. AE from both noun phrases with and without definite articles are largely acceptable.

The second study showed that both LBE and AE are largely unacceptable in the presence of both definite and indefinite determiners, as predicted by the Parameterized DP-Hypothesis. Hence, whatever is responsible for allowing AE from noun phrases with and without definite articles and disallowing AE from noun phrases with different types of definite and indefinite determiners cannot be the sole presence of DP. LBE data conform to the predictions but a follow-up context-provided acceptability judgment study is needed to further test the acceptability of the relevant structure.

3.5   Proposal

In this section, I will provide a preliminary proposal to explain LBE data in Serbian. I essentially adopt Pereltsvaig's proposal (Pereltsvaig (2008)) and add some further suggestions. The proposal builds on a few claims, which I will present as separate sections below.

It is important to stress that the proposal I will be arguing for is not meant to track the cross-linguistic data, unlike Pereltsvaig's proposal. Given the LBE and AE data from DP-languages discussed in 3.3.2 above, the LBE and AE generalizations need to be re-examined before any proposal tracking the generalizations can be put forth.

3.5.1 LBE ≠ Direct Extraction

The first claim is that Serbian LBE data do not involve <u>direct extraction</u>, pace Corver (1992), Bošković (2005), i.a. I will hence refer to the phenomenon as *Phrase Splitting*, following Pereltsvaig (2008). Supporting arguments for this claim come from works of Fanselow and Ćavar (2002), Pereltsvaig (2008) and Jurka (2010).

First, <u>non-constituents</u> can undergo splitting, as we have seen in the discussion of extraordinary LBE in 3.2.2.4 above (as shown in (3.36) repeated below as (3.135)).

(3.135) (taken from Bošković (2005), p30, ex (78))

> [***U veliku***]$_i$ *on* *uđe*   [t$_i$ *sobu*].
> in big   he entered   room
> 'He entered the big room.'   (SERBIAN)

Corver (1990) and Bošković (2005) however claim that these data can be modelled under the constituent extraction analysis. The main assumption that they make is that a preposition cliticizes onto (adjoins to) an adjective. That way, the preposition is affected by LBE as being an adjunct of the AP. In other words, extraordinary LBE is an instance of ordinary LBE where the element extracted is a constituent (AP) with P cliticized onto A.

Such a proposal entails that Ps must be clitics. One of the defining features of clitics is that they must be unstressed (Browne (1974), Zec and Inkelas (1991), Franks and Progovac (1994), Franks (1998), Bošković (2001), Despić (2011)). And, in fact, Bošković (2005) argues that non-clitic Ps cause degradation in acceptability or unacceptability of extraordinary LBE, as predicted by his proposal:

(3.136) (taken from Bošković (2005), p33, ex (i), ft.46)

> ??[***Prema velikoj***]$_i$ *je*   *Jovan* *trčao* [t$_i$ *kući*].
>   toward big   AUX Jovan ran   house
>   'Jovan ran toward the big house.'   (SERBIAN)

Bašić (2004) however reports that the example (3.136) is fully acceptable in Serbian (p51). Likewise, Pereltsvaig (2008) reports that non-clitic Ps in relevant structures are fully acceptable in Russian:

(3.137) (taken from Pereltsvaig (2008), p9, ex (4a))

[***Protiv sovetskoj***]ᵢ *on vystupal* [tᵢ *vlasti*].
against Soviet he demonstrated regime
'It is against the Soviet regime that he demonstrated.' (RUSSIAN)

As a native speaker of Serbian, I find both (3.136) and a Serbian counterpart of (3.137) fully acceptable. Hence, if Ps indeed cliticize onto As, the inevitable question is how do non-clitic Ps undergo the process of cliticization? In other words, if non-clitic Ps can undergo extraordinary LBE, something additional must be said about these cases to account for them under the constituent extraction analysis. These data hence cast serious doubt on the direct extraction analysis of the phenomenon.

Second, Pereltsvaig (2008) shows that a split phrase can involve a more complex non-constituent:

(3.138) (taken from Pereltsvaig (2008), p9, ex (4b))

*Ja prosto probovala **vot éti češskie s supinatorami** pokupat' **tufli**.*
I simply tried here those Czech with arch-supports to.buy shoes
'I simply tried to buy those here Czech shoes with arch-supports.'

(RUSSIAN)

In the Russian example (3.138), the demonstrative (*got éti* 'those here'), possessive (*češskie* 'Czech') and prepositional phrase (*s supinatorami* 'with arch-supports') are all split from the noun they modify (*tufli* 'shoes'). Under no existing syntactic theory can these three elements form a constituent. Hence the direct extraction analysis needs to be seriously revised in order to track such (non-consitutent) data. The same observation extends to Serbian:

(3.139) *Prosto sam probala **ove ovde češke s ulošcima** da kupim*
        simply AUX tried   these here Czech with arch-supports that buy
        cipele.
        shoes
        'I simply tried to buy those here Czech shoes with arch-supports.'

                                                                    (SERBIAN)

Third, Pereltsvaig (2008) observes that splitting can apply to one of the conjuncts and not necessarily both of them. This observation is a straightforward violation of the Coordinate Structure Constraint, which extractions are subject to (Ross (1967)):

(3.140) (taken from Ross (1967), p161, ex (4.84))

   In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

Hence, if LBE is indeed extraction, we would expect it to be unacceptable if out of a conjunct. This is contrary to the fact. Compare the acceptable split phrase of a coordinate structure (3.141) with the unacceptable wh-movement out of a coordinate structure (3.142):

(3.141) (based on Pereltsvaig (2008), p10, ex (6))

   ***Tvoje**_i sam oprala* [$_{CS}$ [t$_i$ *čarape*] *i majicu*].
   your   AUX washed   socks   and shirt
   'I washed your stockings and a shirt.'   (SERBIAN)

(3.142) (based on Ross (1967), p158, ex (2.18))

   *[***Koje fotelje***]_i *će staviti stolicu između* [$_{CS}$ *stola i* t$_i$]?
   which armchair AUX put   chair   between   table and
   'What armchair will he put the chair between some table and?'   (SERBIAN)

Fourth, Pereltsvaig (2008) observes that splitting can apply to lexical compounds in Russian, which is again an unexplained instance if direct extraction is indeed involved in the structure.

(3.143) (taken from Pereltsvaig (2008), p10, ex (7a))

> [***V vagon***]$_i$ *ona xodila* [t$_i$ *restoran*] *obedat'*.
> to carriage she went restaurant to.dine
> 'She used to go dine in a carriage-restaurant.' (RUSSIAN)

The same observation extends to Serbian:

(3.144) [***U vagon***]$_i$ *je išla* [t$_i$ *restoran*] *da jede*.
to carriage AUX went restaurant that dine
'She used to go dine in a carriage-restaurant.' (SERBIAN)

Fifth, split phrase data do not violate some islands whereas extractions generally violate all of them. Pereltsvaig (2008) shows that Russian splits are sensitive to strong islands (subject, complex NP and adjunct islands) but not to weak islands (wh-, negative and factive islands):[73]

(3.145) (taken from Pereltsvaig (2008), p10, ex (8))

a) ****Novejšuju***$_i$ [$_{SUB}$ *pročitat'* t$_i$ *knigu*] *važno* *každomu* *studentu*.
    newest to.read book important every.DAT student.DAT
    intended: 'It is important for every student to read the newest book.'

b) *[***Samuju interesnuju***]$_i$ *ty vstretil pisatelja* [$_{RC}$ *kotoryj napisal* t$_i$
    most interesting you met writer who wrote
    knigu].
    book
    intended: 'You met the writer who wrote the most interesting book.'

c) ****Novejšuju***$_i$ *ty sdal ékzamen* [$_{ADJ}$ *ne čitaja* t$_i$ *knigu*].
    newest you passed exam not reading book
    intended: 'You passed the exam without reading the newest book.'

(RUSSIAN)

---

[73]Fanselow and Ćavar (2002) show that in German, split noun phrases do not respect some islands: subject, dative and PP islands.

(3.146) (taken from Pereltsvaig (2008), p11, ex (9))

  a) **_Zvëzdnyj_**ᵢ *ne   skažete*   [_WH_ *gde*   tᵢ *restoran*]*?*
     'starry'   not you.will.say   where   restaurant
     'Please tell me where starry restaurant is.'

  b) *Vy* [**_v   drugoj_**]ᵢ [_NEG_ *ne   budete zaxodit'* tᵢ *magazin*]*, Tanečka?*
     you in another   not will   go.in   shop   Tanečka
     'You won't go into another shop, Tanečka?'

  c) **_Nesvežuju_**ᵢ *ty   žaleeš'* [_FACT_ *čto   poel* tᵢ *ikru*]*.*
     past.its.best you regret   that   ate   caviar
     'Do you regret eating not-so-fresh caviar?'   (RUSSIAN)

The same observation extends to Serbian, i.e., splitting phrases across strong islands is unacceptable while acceptable across weak islands.

(3.147) a) *__Najnoviju__ᵢ *je*   [_SUB_ *pročitati* tᵢ *knjigu*] *važno*   *svakom*
            newest   AUX   to.read   book   important every.DAT
            studentu.
            student.DAT
            intended: 'It is important for every student to read the newest book.'

  b) *__Najinteresantniju__ᵢ *si*   *upoznao pisca* [_RC_ *koji je   napisao* tᵢ
     most.interesting   AUX met   writer   who AUX wrote
     knjigu]*.*
     book
     intended: 'You met the writer who wrote the most interesting book.'

  c) *__Najnoviju__ᵢ *si*   *položio ispit* [_ADJ_ *ne   čitajući* tᵢ *knjigu*]*.*
     newest   AUX passed exam   not reading   book
     intended: 'You passed the exam without reading the newest book.'

                                                              (SERBIAN)

(3.148)   a) ***Zvezdani*ᵢ** *mi molim te   reci* [_WH_ *gde   je   t*ᵢ *restoran*].
'starry'   me please you say   where AUX   restaurant
'Please tell me where the starry restaurant is.'

   b) *Vi [**u drugu**]*ᵢ [_NEG_ *nećete ići   t*ᵢ *prodavnicu*], *Marija?*
you in another   not   go.in   shop   Marija
'You won't go into another shop, Marija?'

   c) ***Pokvareni*ᵢ** *žališ* [_FACT_ *što   si   pojeo* t*ᵢ *kavijar*]*?*
past.its.best regret   that AUX ate   caviar
'Do you regret eating not-so-fresh caviar?'   (SERBIAN)

Furthermore, the existence of so-called *triple splits* has been reported (Pereltsvaig (2008)). These types of structures involve splitting of a phrase into three parts.

(3.149) (taken from Pereltsvaig (2008), p13, ex (12d))

*Ox **kakix** ja sebe **blinov**   segodnja nadelala **vkusnyx**.*
oh what   I self pancakes today   made   tasty
'Oh, what tasty pancakes I made for myself today.'   (RUSSIAN)

The same observation holds for Serbian:

(3.150) *Oh **kakve** sam sebi **palačinke** danas napravila **ukusne**.*
oh what   AUX self pancakes   today made   tasty
'Oh, what tasty pancakes I made for myself today.'   (SERBIAN)

These structures are difficult to track if one assumes the direct extraction analysis. One would have to assume that either part A and part B are extracted separately or, that part B is extracted out of part C and then part A is extracted out of part B. Both of the solutions are problematic: the former would wrongly predict that nested and crossing paths are interchangeable given the existence of simple and inverted splits (see Pereltsvaig (2008) for details) whereas, the latter faces the issue of the freezing effect (extracted elements become islands for extractions).

Finally, we have seen in the section 3.3.1.2. above that LBE in Serbian does not conform to CED, a condition on <u>extraction</u> domain (Jurka (2010)). The acceptability judgment studies reported reveal that LBE out of subjects (non-complements) and objects (complements) pattern together. Such a finding suggests that extraction is not a mechanism involved in the relevant structure. See 3.3.1.2. above for details.

3.5.2 Movement of the Whole Phrase + Partial Interpretation

Building on the proposal by Fanselow and Ćavar (2002), Pereltsvaig proposes that instead of the direct extraction mechanism, the mechanism involved in these structures is movement of the whole phrase and partial interpretation of the copies. That is, there is no movement <u>out</u> of the phrase (which immediately explains the non-constituent, island and triple split data presented above) but rather the <u>whole phrase</u> moves.

This movement, Pereltsvaig claims, is feature driven. It can be: (a) wh-movement, (b) focus in *li*-questions or (c) scrambling, with the relevant feature being [contrastive] and not [topic] and [focus], as argued by Fanselow and Ćavar (2002).[74]

The author further assumes the copy theory of movement, i.e., the movement which creates multiple copies. She claims that the splitting derives from partial interpretation of the copies at the PF. The idea of partial interpretation of copies is not novel: it is used, for instance, to account for variable binding. In order to account for the coreference between *John* and *himself* in the question structure below, for example, it is argued that there is a partial interpretation of the two wh-phrases, where the anaphor is interpreted in the lower copy (so it can be c-commanded by the R-expression) and the other part of the phrase is interpreted in the upper copy (since it is a question):

(3.151) [*Which picture ~~of himself~~*] *does John like* [~~*which picture*~~ *of himself*]?

---

[74]Pereltsvaig (2008) argues that the relevant scrambling features involved are [contrastive topic] and [contrastive focus] and that they are interpretable since they contribute to the information structure.

The derivation of a split hence involves the following three steps (as shown in (3.152) below): the structure is first base generated, then the relevant phrase undergoes feature-driven movement (wh-, li-question or scrambling) and eventually the copies are partially PF-interpreted.

(3.152) a) *Ivan vozi [**crveni auto**].*
              Ivan   drive red   car

                                                                    BASE GENERATION

         b) [**crveni auto**] *Ivan vozi [**crveni auto**].*
              red   car   Ivan   drive red   car

                                                           FEATURE-DRIVEN MOVEMENT

         c) [**crveni ~~auto~~**] *Ivan vozi [~~**crveni**~~ **auto**].*
              red   car   Ivan   drive red   car
             'Ivan drives a red car.'   PF-PARTIAL INTERPRETATION

As already pointed out, such a proposal immediately tracks the non-constituent, island and triple splits data, which are all problematic for the direct extraction analysis.

3.5.3   Simple and Inverted Splits

The second claim that the proposal I am presenting here builds on is that one and the same mechanism (phrase splitting) can be used to track both so-called *pulled/simple splits* and *inverted splits* (Pereltsvaig (2008)). Simple splits are instances in which an element is split from a noun so that it preserves the basic word order (in (3.153a) below, the adjective precedes the noun) whereas inverted splits are instances in which basic word order is reversed (in (3.153b) below, the noun precedes the adjective).

(3.153) (taken from Fanselow and Ćavar (2002), p67, exs (14a) and (14b))

a) <u>SIMPLE SPLIT</u>

    Crveni *je*   *Ivan* <u>*auto*</u> *kupio.*
    red   AUX Ivan car   bought

                                                       (SERBIAN)

b) <u>INVERTED SPLIT</u>

    <u>*Auto*</u> *je*   *Ivan* **crveni** *kupio.*
    car   AUX Ivan red   bought
    'Ivan has bought a red car.'

Under the phrase splitting analysis, it is equally possible to have either a noun or an adjective interpreted in a higher or lower copy. The direct extraction analysis, on the other hand, does not address the inverted splits at all.

3.5.4 Word Order Restriction

The third claim that my proposal relies on, and that is an addition to Pereltsvaig's proposal, is that the ordering of the base-generated modifiers within a noun phrase must stay intact when the phrase is split. In other words, if a base-generated ordering of modifiers is [X Y **NP** Z] for instance, this order must be preserved when the phrase is split. That is, X must precede both Y and Z and Y must precede Z: X > Y > Z. Crucially though, the placement of a noun among the modifiers is irrelevant. In other words, whether an NP follows X, Y and Z (see for instance (3.139) above) or it is sandwiched in between X and Y, while Z follows them (see for instance (3.150) above), does not interfere with the acceptability of the structure .

Such an ordering restriction stems from the permissible base-generated word orders among nominal modifiers. In other words, as we have seen in §Chapter 2, different types of nominal modifiers occupy different positions within a noun phrase. For instance, we have seen that possessive adjectives and ordinary adjectives in Serbian can permute the order

(unlike their English counterparts) while demonstratives must precede them. Furthermore, PPs, as nominal modifiers, always follow the noun.

(3.154) Dem (X) > Poss/Adj (Y) > PP (Z)

The ordering restriction imposed on phrase splits stems from the observed hierarchy. Therefore, the structure in (3.155) below can be split only if the order of the nominal modifiers is hierarchically preserved. (3.156a) is acceptable since the order of the three modifiers obeys the hierarchy, as given in (3.154) above whereas, (3.156b) is unacceptable because the order in which the modifiers appear in the split phrases violates the hierarchy.

(3.155) *Oprala   sam   **tu**$_X$ **tvoju**$_Y$ majicu   [**s**   **flekom**]$_Z$.*
       washed   AUX   that   your   shirt   with   stain
       'I washed that shirt of yours with stain.'   (SERBIAN)

(3.156)   a) **Tu**$_X$ sam   **tvoju**$_Y$ majicu   oprala   [**s**   **flekom**]$_Z$.
          that   AUX   your   shirt   washed   with   stain

                                                            √ (X > Y > Z)

        b) *[**S**   **flekom**]$_Z$ sam   majicu   oprala   **tvoju**$_Y$ **tu**$_X$.
          with   stain   AUX   shirt   washed   your   that

                                                            *(Z > Y > X)

Therefore, the ordering of the nominal modifiers is subject to the observed hierarchy even in the split phrases.[75]

---

[75]A possible way to capture such word order restrictions is by cyclic linearization (Pesetsky and Fox (2005)). In particular, nominal modifiers are complements of D (following Larson (1991) and his subsequent work; see Chapter §4 below for details) and as such, they are spell-out domains of the D phase. Noun, on the other hand, is in the domain of the little d head and hence, it is in a spell-out domain of the little d phase. Therefore, the shell structure provides us with a way of capturing the observed word order restrictions. All modifiers are in the spell-out domain of D and once spelled-out, their order cannot be changed. Nouns are in the spell-out domain of d and consequently, their order is not determined with respect to the modifiers.

3.5.5 Only Otherwise Permissible Combinations

The last claim that I am going to make here builds on Sekerina's observation that 'split PPs can only occur if some part of the complement of P remains adjacent to P and no part of the complement of P precedes the preposition' (Sekerina (1997)). In other words, it is impossible to split a phrase that contains a PP in such a way that either P alone or its complement are stranded behind. This is certainly correct for Serbian but I think that a more general restriction can be put forth here: only otherwise permissible combinations of nominal modifiers are possible in split phrases. That is, it is not only PPs that are subject to certain restrictions that generally apply to them in a language but also other nominal modifiers. For instance, RCs must linearly follow a noun; hence, if RCs participate in the split phrase, they must appear in a position in which they follow an N as well.

(3.157) a) *Čitam knjigu* [$_{\text{RC}}$ *koju   si   mi   poklonio*].
             read   book   which AUX me gave

                                                              (SERBIAN)

          b) *[$_{\text{RC}}$ *Koju   si   mi   poklonio*] *čitam   knjigu*.
             which AUX me gave   read   book
             'I am reading the book which you gave me as a gift.'

The same holds for adjectival modifiers that must stay in-situ, i.e., post-nominal adjectives (see Larson and Marušič (2004)). That is, post-nominal adjectives must linearly follow a noun, rendering (3.158b) unacceptable.

(3.158) a) *On je   bio   vođa*   [*sličan   Titu*].
             he   AUX been leader similar.to Tito

                                                              (SERBIAN)

          b) *[*Sličan   Titu*] *je   on   bio   vođa*.
             similar.to Tito   AUX he been leader
             'He was a leader similar to Tito.'

Hence, split phrases obey the otherwise imposed rules on permissible combinations among words: Ps or their complements cannot be stranded in Serbian in general (as well as in split phrases), RCs and post-nominal adjectives must linearly follow nouns in general (as well as in split phrases).

3.6   Summary

In this chapter I discussed two extraction phenomena: LBE and AE, whose potentials are claimed by the proponents of the Paramaterized DP-Hypothesis to directly relate to the presence/absence of DP within a nominal structure. I first provided some general background on both LBE and AE and then focused on the proposal put forth by Bošković (2005), building on the work of Corver (1992). After presenting the basics of the direct extraction analysis, I presented data from a range of languages that challenge the proposal and LBE and AE generalizations. Additionally, I pointed out to the controversies regarding the data that the generalizations are built on. Some of the data presented were new and some are already reported in the literature.

As far as challenges for the direct extraction analysis are concerned, I discussed three of them: (a) definiteness/specificity effect, (b) Condition on Extraction Domain and (c) some more elaborate data on Deep LBE, Deep AE and N-complement extractions from structurally and inherently case-marked NPs. Bošković claims that English and Serbian differ regarding the Definiteness Effect: in Serbian, the Effect is often relaxed. In other words, it is possible to extract an element from a definite noun phrase. However, the claimed difference in behavior between the two languages is shown to be problematic. It is either the case that English relevant examples involve N-complement extraction whereas Serbian examples involve adjunct extraction. If so, we are dealing with extraction of phrases that are in different syntactic positions (complement vs. adjunct) and, we introduce the problem of non-uniform behavior of LBE and AE from definite noun phrases in Serbian. If this is not

the case, however, then both English and Serbian extracted phrases are of the same status (N-complements) but adjustments to Bošković's analysis need to be made to track the data. Further, it has been shown that the uniform treatment of LBE and AE as direct extractions is not confirmed by the findings of the acceptability judgment studies that tested whether LBE and AE conform to CED. The results show that there are subject/object asymmetries with AE but not with LBE. Finally, I presented data on Deep LBE, Deep AE and N-complement extraction from structurally and inherently case-marked NPs. The generalizations that Bošković makes about these three types of extractions need to be re-evaluated. As far as structurally case-marked NPs are concerned, there is variation in acceptability of relevant examples and there is an interaction of competing possessive forms and acceptability of their genitive counterparts. As far as inherently case-marked NPs are concerned, the judgments of the relevant examples as reported in Bošković's work are in opposition to the findings of the acceptability judgment study, the finding which certainly calls for further investigation of the phenomenon.

After discussing the issues pertaining to the Bošković's direct extraction proposal for LBE and AE cross-linguistically, I presented data that challenge the LBE and AE generalizations. In particular, I looked at the relevant structures in Homeric Greek, Bulgarian, Macedonian, Timočko-lužnički Serbian and Brazilian Portuguese (all DP languages). The data show that the generalizations need to be re-examined. Homeric Greek, Macedonian, TL Serbian and BP challenge the LBE generalization whereas Bulgarian, Macedonian and TL Serbian challenge the AE generalization. Further investigation of the two phenomena in a wider set of languages is needed to help formulate the correct cross-linguistic descriptive generalizations of LBE and AE.

Furthermore, I pointed out to the fact that some LBE and AE data discussed in Bošković's work are controversial, though not necessarily invalidating his proposal and the generalizations. I have shown that Slovenian LBE and Polish/Russian AE data are controversial, as reported in Hladnik (2009), Rappaport (2001) and Bailyn (2012). These data do not invali-

date the generalizations but question the exemplars used by Bošković and his followers.

I also presented and discussed new data from the five acceptability judgment studies from Serbian and Macedonian, testing the acceptability of LBE and AE in different conditions. The Serbian studies show that (a) LBE is unanimously disallowed in the presence of a demonstrative unlike AE, which is degraded but acceptable, (b) LBE from noun phrases containing agreeing and non-agreeing determiners is equally unacceptable, contradicting the prediction of Bošković and his followers who claim that non-agreeing determiners are in a different syntactic position (QP) than the agreeing determiners (adjoined to NP) and, (c) LBE of determiners, with the exception of the determiner *svaki* 'each' is generally acceptable, casting doubt on their adjunction treatment with no ordering hierarchy involved. The Macedonian studies show that (a) AE is largely acceptable, contradicting the prediction made by the AE generalization, (b) there are controversies regarding the acceptability of LBE from indefinite noun phrases and, (c) LBE and AE are both unacceptable in the presence of a determiner within a noun phrase. These findings cast doubt on the LBE and AE generalizations as provided by the proponents of the Parameterized DP-Hypothesis and call for further investigation.

Finally, I adopted Pereltsvaig's proposal to account for the Serbian LBE data (Pereltsvaig (2008)). I showed that the mechanism involved is not direct extraction (pace Corver (1992), Bošković (2005)) but rather movement of the whole phrase followed by a partial PF interpretation of the copies created by the movement. Such a mechanism accounts for the data problematic for the direct extraction analysis (non-constituent, island and triple splits) and also for both simple and inverted splits. I have also shown that two additional restrictions are needed to track the relevant data: the word order restriction and otherwise permissible combinations. That is, only the word orders that are otherwise acceptable among nominal modifiers are also acceptable in the split phrases and only otherwise permissible combinations are acceptable in split phrases. This proposal is not meant to be cross-linguistic since the LBE and AE generalizations, as pointed out in section 3.3.2, need to be re-examined.

Chapter 4

D and Serbian Relative Clause Structure

As discussed in the previous chapter, the proponents of the Parameterized DP-Hypothesis claim that the presence/absence of a DP projection is directly related to the broader syntactic behavior of nominals in DP and DP-less languages. Twenty such generalizations are provided (Bošković (2008b), Despić (2011), Bošković (2012b), Bošković (to appearb)). In this chapter, I will focus on a syntactic implication that has not yet received much attention in the literature; and that is that the lack of a DP projection virtually eliminates three of the four classical analyses of RCs. If there is no DP projection, RCs must be NP adjuncts. This implication has not been discussed in the literature though some work on Serbian RCs has been done (van de Auwera and Kučanda (1985), Browne (1986), Kordić (1995), Runić (2006), Gračanin-Yuksek (2008), Herdan (2008), Bošković (2009c), Gračanin-Yuksek (2010), Arsenijević and Gračanin-Yuksek (2012)).[1] The question that has often been avoided in this research[2] is the nominal structure that the RCs attach to. And while some researchers *assume* that Serbian RCs attach to DP on a par with some accounts provided for English

---

[1]Serbian RCs have been discussed in processing literature to some extent as well. Some of the works include Smith and Mimica (1984), Lukatela (1989), Milekić et al. (1995), Goodluck and Stojanović (1996), Stojanović (1999), Elouazizi et al. (2013), Stojanović et al. (to appear).

[2]The exception is Runić (2006).

RCs for instance, some do not discuss the issue at all.[3] [4] Since the presence of a DP in Serbian is, as we have seen above, a controversial issue, the RC-attachment question needs to be addressed. In this chapter, I will attend to it. In particular, I will first present the four classical analyses of RCs and then discuss three arguments provided for the D-RC view, i.e., the view that RCs attach to D in English. The three arguments essentially show that there is a selectional dependency between D and RC. I will then investigate how these arguments extend to Serbian and show that such dependencies can be found in the language, strongly suggesting that there are DP projections in Serbian.

4.1 The Four Classical Analyses

From the early generative grammar, there have been four main proposals regarding the structure of prototypical RCs. Although these proposals tackle three pivotal questions (a) what are the phrase(s) that RCs attach to, (b) are RCs complements or adjuncts and (c) where is a relative head[5] base-generated: outside, inside or, both outside and inside of an RC, in this chapter, I will focus only on the first one. This question is directly relevant to the nominal structure phenomenon, which is the locus of the work presented here.

Prototypical RCs attach to nominal relative heads, which are standardly assumed to be DPs containing NPs. And while no one doubts the universality of the NP projection, the universality of the DP projection, as we have seen in the previous two chapters, is a matter

---

[3]Herdan (2009) provides an account for Serbian RCs with indefinite pronominal external relative heads, which she claims are in QP.

[4]Bošković (2009c) argues that the weak-island sensitivity in Serbian RCs with resumptive pronouns stems from the absence of a DP in Serbian. Building on the work of Boeckx (2003), who argues that resumptive pronouns should never be sensitive to weak islands (weak islands force a specific, DP, interpretation on the extractee and, resumptive pronouns are viewed as DPs that involve extraction of a specific DP), Bošković claims that the observed weak-island sensitivity in Serbian can be explained by the lack of a DP in the language. However, he does not provide any specifics of the structure of RCs in general.

[5]Different terms are used in literature to refer to the same phenomenon, such as *pivot, antecedent*, etc. I will use the term *relative head*.

of a long-standing debate. Most of the languages investigated in the domain of RCs contain definite articles and are believed to uncontroversially project DP. That is, both DP and NP are undoubtedly presumed to project within a nominal domain. Consequently, two views emerged regarding the phrasal-level attachment of RCs:[6]

a) <u>RCs attach to DP</u>

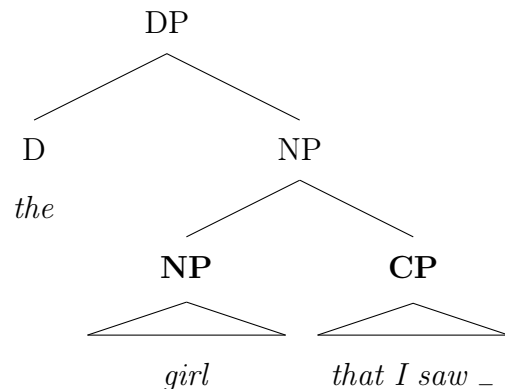(Smith (1964), Ross (1967), Kayne (1994), Larson (2008), among others)[7] [8]

(4.1) (taken from Larson (2008), p12, ex (43a))

```
            DP
           /  \
         DP    CP
        /\     /\
    the girl  that I saw _
```
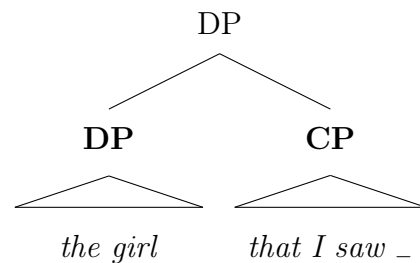
b) <u>RCs attach to NP</u>

(Stockwell et al. (1973), Baker (1978), among others)

(4.2) (taken from Larson (2008), p12, ex (43b))

```
              DP
            /    \
          D      NP
         the     /  \
              NP     CP
             /\      /\
           girl    that I saw _
```

---

[6]There is another proposal in which the level of attachment correlates with restrictiveness of an RC. For details, see Jackendoff (1977), Emonds (1979), McCawley (1982), Demirdache (1991).

[7]Note that some of the authors listed do not use the label **DP** since their research preceded the introduction of a DP in a nominal domain. The labels they used however correspond to the currently assumed DP.

[8]I am presenting here only adjunction versions. I will show shortly that the authors cited differ in how they treat RCs, as adjuncts or as complements of D. What is illustrated here is the uniformity among the authors regarding the phrasal, i.e., DP-attachment of RCs.

Both of the structures presented above assume that the RCs are adjuncts, to DP (4.1) or to NP (4.2) respectively. In other words, the premise is that RCs are not selectionally dependent on either D or N. However, the adjunction view is not the only view that received support in the literature. RCs have also been argued to be complements of Ds. This view was, in fact, the first generative approach to RCs (Smith (1964)), illustrated in (4.3) below. A few similar analysis emerged afterwards giving further argumentation for the RC-complementation view (Brame (1968), Vergnaud (1974), Kayne (1994) among others, illustrated in (4.4) below). The difference between the former (Smith's) and the latter (Brame's, Vergnaud's, and others) is in the position that a relative head has in a structure. Smith argues that the relative head is outside the RC, as shown in (4.3) whereas, Brame, Vergnaud and others argue that the relative head is inside the RC, (4.4). The specifics of the proposals are however irrelevant for the current discussion. See the works cited for details.

(4.3) (taken from Larson (2008), p12, ex (44a))
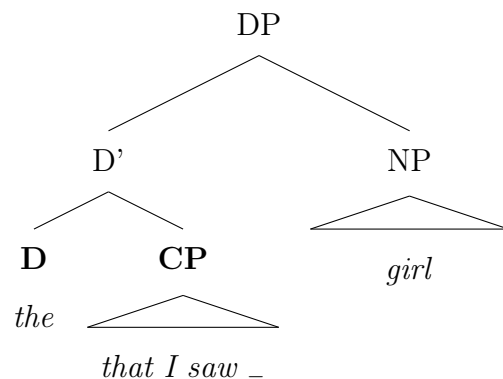
(4.4) (taken from Larson (2008), p12, ex (44b))

230
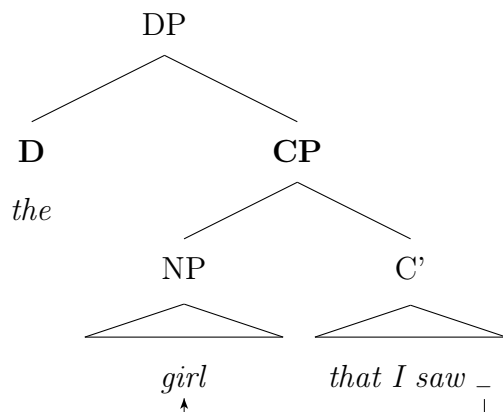
The RC-complementation view, as shown in the tree diagrams above, is argued to apply only in the DP domain; as opposed to the RC-adjunction view, which is applicable in both domains: DP and NP, shown respectively above in (4.1) and (4.2). The concept of complementation is based on selectional dependencies between two elements: an element X selects for an element Y and the two are merged into the structure. In the case of RCs, this would mean that D selects for RC; i.e., there is a selectional dependency between D and RC in both (4.3) and (4.4) above. Exactly these types of dependencies are offered as arguments for the RC-complementation view.

Crucially though, these types of dependencies are observed for languages that uncontroversially project DP, such as English for instance. The Parameterized DP-Hypothesis predicts that they should not exist in languages without definite articles since there is no DP projection. Serbian, as an exemplar of the latter type, is hence expected not to show any selectional dependencies between Ds, or the elements that are claimed to be lexical instantiations of D, and RCs. In the next section I will show that this prediction is not borne out.

4.2   Selectional Dependencies between D and RC

The RC-complementation view is based on selectional dependencies between D and RC, or more broadly speaking, D and a restrictive modifier (Smith (1964), Kuroda (1969), Jackendoff (1977)). I will present three such dependencies below, all observed for English, and show how they extend to Serbian.

4.2.1   Restrictiveness of RCs

It has been observed that there are selectional restrictions between determiners and restrictiveness of RCs. This observation was first reported in Smith (1964) for English. She notes that different types of determiners allow different interpretations of RCs: restrictive and

non-restrictive. Accordingly, she divides determiners into three classes:

a) UNSPECIFIED: *any, all*, etc.

They allow only **restrictive** RCs.

b) UNIQUE: ∅ (proper names)

They allow only **non-restrictive** RCs.

c) SPECIFIED: *a, the,* ∅

They allow **both** restrictive and non-restrictive RCs.

Smith uses the following examples to illustrate the co-occurrences of different types of RCs (restrictive/non-restrictive) with the three determiner classes:

(4.5) (taken from Smith (1964), p38)

a) ***Any** book which is about linguistics is interesting.* UNSPECIFIED, RES

b) ****Any** book, which is about linguistics, is interesting.* *UNSPECIFIED, NON-RES

c) ****John** who is from the South hates cold weather.* *UNIQUE, RES

d) ***John**, who knows the way, has offered to guide us.* UNIQUE, NON-RES

e) *They pointed to **a** dog who was looking at him hopefully.* SPECIFIED, RES

f) *They pointed to **a** dog, who was looking at him hopefully.* SPECIFIED, NON-RES

Similarly, Kordić (1995) observes that in Croatian there is a link between an external relative head and an RC, where the determiner of the relative head contributes to the interpretation of the RC as being restrictive or non-restrictive. Runić (2006) notices that the same is true for Serbian RCs, which she takes as an argument that Serbian in fact projects

DP. Based on the interpretations that RCs can receive: restrictive and non-restrictive, the determiners are divided into three classes (I adopt Smith's 'labels' here): (a) unspecified determiners (allowing only restrictive RCs), (b) unique (allowing only non-restrictive RCs) and (c) specified (allowing both restrictive and non-restrictive RCs). Even though Kordić (1995) claims that some determiners largely allow only non-restrictive interpretations of RCs, she shows, based on the Corpora search, that they actually allow restrictive interpretations as well (pp78-107).[9] Hence, I will group these determiners in the 'specified' class.

a) UNSPECIFIED:

   demonstratives: *onaj* 'that', *takav* 'such', *onakav* 'such, distant'

   quantifiers: *svi* 'all', *svaki* 'each'

   indefinite determiners: *ikoji* 'whichever', *ikakav* 'no matter what type', *kakav god* 'no matter which'

   They allow only **restrictive** RCs.

b) UNIQUE:

   ∅ (proper names, personal pronouns[10])

   They allow only **non-restrictive** RCs.

c) SPECIFIED:

   demonstratives: *ovaj* 'this', *taj* 'yonder'

   indefinite determiners: *neki* 'some', *jedan* 'one'

   all possessives

   They allow **both** restrictive and non-restrictive RCs.

---

[9]Kordić (1995) says '[a]lthough the restrictive or non-restrictive character of the relative clause is generally the result of an interrelationship of several different factors, among whom the pragmatic factor plays an important role, a formal constituent of the antecedent structure appears to have special significance. Its function as *determiner* (demonstrative, possessive, general, indefinite and negative pronoun and the word *jedan* 'one') determines the realization of the relative clause as restrictive or non-restrictive.' (p304)

[10]See Kordić (1995) and Runić (2006) for some exceptions.

The following examples illustrate the division of determiners into three classes according to the interpretation of RCs that they allow:

(4.6) ((a) taken from Runić (2006), p84, ex (24a))   (SERBIAN)

    a) **Ona** *žena* *koja* *se* *bavi* *sportom* *ima* *zdravo* *srce.*
        that woman which REFL do sports have heatlhy heart
        'That/The woman who does sports has a healthy heart.'

<div align="right">

UNSPECIFIED, RES

</div>

    b) *__Ona__ *žena,* *koja* *se* *bavi* *sportom,* *ima* *zdravo* *srce.*
        that woman which REFL do sports have heatlhy heart
        'That/The woman, who does sports, has a healthy heart.'

<div align="right">

*UNSPECIFIED, NON-RES

</div>

(4.7) ((b) taken from Runić (2006), p84, ex (25a))   (SERBIAN)

    a) *_Dolazi_ **Marko** *koji* *donosi* *knjigu.*
        come Marko who bring book
        'Here comes Marko who brings the book.'   *UNIQUE, RES

    b) *Dolazi* **Marko**, *koji* *donosi* *knjigu.*
        come Marko who bring book
        'Here comes Marko, who brings the book.'

<div align="right">

UNIQUE, NON-RES

</div>

(4.8) (taken from Runić (2006), p83, ex (21a))   (SERBIAN)

    a) *Nosim* **ovaj** *kaput* *koji* *je* *star.*
        wear this coat which AUX old
        'I wear this coat which is old.'

<div align="right">

SPECIFIED, RES

</div>

    b) *Nosim* **ovaj** *kaput,* *koji* *je* *star.*
        wear this coat which AUX old
        'I wear this coat, which is old.'

<div align="right">

SPECIFIED, NON-RES

</div>

As the data above show, there are selectional restrictions between determiners and RCs: some determiners allow only restrictive RCs, some only non-restrictive and some both. The same phenomenon is observed in both English (Smith) and Serbian (Kordić and Runić). If Serbian determiners are adjuncts of NPs, as argued by the proponents of the Parameterized DP-Hypothesis, the selectional restrictions are very difficult, if not impossible, to be captured. Under that view, an adjunct (determiner) would have to select for another adjunct (RC) and determine its interpretation, as restrictive or non-restrictive. On the other hand, if Serbian determiners are lexical instantiations of D on a par with their English counterparts, the observed selectional restrictions fall out naturally: D selects for an RC and the two are merged into the structure.

4.2.2 Definite Article-Proper Names & Demonstrative-RC

Another argument for the D-RC view comes from Jackendoff's observation that definite articles in English cannot co-occur with proper names alone (as shown in (4.9a) below) but, if the proper name contains a modifier (adjective, RC, PP), the definite article is licit. In other words, there is a discontinuous dependency between the definite article and a restrictive modifier (Jackendoff (1977)):

(4.9) (taken from Larson (2008), p13, ex (47))

    a) ***the** *Paris*

    b) **the** <u>*old*</u> *Paris*

    c) **the** *Paris* <u>*that I love*</u>

    d) **the** *Paris* <u>*of the twenties*</u>

Since Serbian does not have definite articles, the observation cannot extend in its exact form into it. However, we can find a somewhat similar phenomenon. As we have seen above, Serbian has determiners that allow only restrictive RCs. One of those determiners is the

demonstrative *onaj* 'that'. This demonstrative is relevant for the current discussion because not only does it allow exclusively the restrictive interpretation of RCs, but it also <u>requires</u> a restrictive modifier (adjective, RC, PP) when it is not used deictically. Such a behavior is reminiscent of the English definite article described above. That is, there is a discontinuous dependency between the determiner *onaj* 'that' and a restrictive modifier:[11]

(4.10) a) *Sećam   se   **onog** *(<u>starog</u>) Novog Sada.*
          remember REFL that   old   Novi   Sad
          'I remember the old Novi Sad.'   (SERBIAN)

   b) *Sećam   se   **onog** Novog Sada *(<u>u kojem sam odrasla</u>).*
       remember REFL that   Novi   Sad   in which AUX grew.up
       'I remember the Novi Sad which I grew up in.'

   c) *Sećam   se   **onog** Novog Sada *(<u>iz 80-ih</u>).*
       remember REFL that   Novi   Sad   from 80s
       'I remember the Novi Sad from the 80s.'

The selectional dependency between the definite article in English and demonstrative *onaj* 'that' in Serbian on one hand and, a restrictive modifier (adjective, RC, PP) on the other, can be explained by the complementation-analysis: D selects for its restrictive modifier. If there is no DP in Serbian, we again face the inscrutable challenge of accounting for the selectional dependency between two adjuncts: determiners and restrictive modifiers (adjective, RC, PP). No such challenge arises under the Universal DP-Hypothesis.

---

[11]Runić (2006) claims that the relative head containing a determiner *onaj* 'that' and a proper name can have both restrictive and non-restrictive interpretation since it contains determiners belonging to two different classes: the demonstrative allows only restrictive while the proper name allows only non-restrictive interpretation. (p87) Note however that the non-restrictive interpretation is possible only if the demonstrative *onaj* is used deictically.

4.2.3 Definite Article-Abstract Common Noun & Temporal Adverb-RC

The third argument supporting the D-RC treatment of RCs comes from a observation made in Kuroda (1969). The author observes that English abstract common nouns (or, indefinite nouns) cannot co-occur with a bare definite article. However, if there is a restrictive modifier, the use of the definite article is licit.

(4.11) (taken from Larson (2008), p12, ex (45))

    a) *I earned it **the** way.*

    b) *I earned it **the** <u>old-fashioned</u> way.*

    c) *I earned it **the** way <u>that one should</u>.*

There is a somewhat similar phenomenon in Serbian. Ivić (1964) notices that Serbian temporal adverbs can be expressed in two ways: (a) in a form of a prepositional phrase (shown in (4.12)) or, (b) as genitive case-marked nouns that must have a modifier (as shown in (4.13)).

(4.12) *Marija se   rodila **u** **petak**.*
       Marija REFL born on Friday
       'Marija was born on Friday.'   (SERBIAN)

(4.13) (taken from Browne (1986), p76, ex (3a))

*Marija se   rodila <u>onog</u> <u>istog</u> **dana**   <u>kojeg je pisac Tolstoj umro.</u>*
Marija REFL born   that   same day.GEN   which AUX writer Tolstoy died
'Marija was born the same day that the writer Tolstoy died.'   (SERBIAN)

The latter type of temporal adverbs, shown in (4.13), is relevant for the current discussion since it shows that there is a dependency between the genitive case-marked noun and the

modifier. I will focus on RCs here since these structures are the topic of the discussion. If there is no RC, the temporal adverb cannot surface as a genitive case-marked noun. In other words, the genitive case-marked noun requires an RC.[12]

(4.14) *Marija   je   otputovala **jutra***   *(*kojeg je Todor maturirao*).
      Marija AUX left   morning.**GEN**   which AUX Todor graduated
      'Marija left the morning Todor graduated.'   (SERBIAN)

To account for the Serbian data shown above, I propose the following: on a par with the English definite article occurring with abstract common nouns, which is argued to select for the restrictive modifier, there is a null D in Serbian occurring with temporal adverbial nouns, which selects for an RC. The presence of a null D is justified by the obligatory presence of the little d, which is the genitive case-assigner.[13] [14] As shown above, Serbian temporal adverbial nouns must surface in genitive case unless they are complements of prepositions. The source of genitive is attributed to the little d. I will provide the specifics of the proposal and further evidence from Serbian to support it in a later section. For now, I would like to draw a parallel between temporal adverbial structures in Serbian and their counterparts in Macedonian, which will further illuminate the argument.

Temporal adverbs in Macedonian, a Slavic language with definite articles and very limited overt case-marking, show the exact same behavior as English abstract common nouns: they

---

[12]I included the example (4.14) in one of my acceptability judgment studies since one native speaker of Serbian in an informal conversation of the matter found the example not fully acceptable. The example was given a judgment of 5.44 (n=98). I take this as evidence that it is largely acceptable. There is however another, more natural way, of expressing the same thought and this might be a factor influencing a somewhat degraded acceptability of the relevant RC example; instead of an RC, a temporal *when*-clause can be used:
(i) *Marija je otputovala jutra kada je Todor maturirao.*
   Marija AUX left morning when AUX Todor graduated
   'Marija left the morning when Todor graduated.'   (SERBIAN)

[13]Abney (1987) proposed that D hosts a null AGR morpheme which assigns genitive case in English whose overt realization is *'s*.

[14]Pesetsky (2010) argues that Russian nouns enter derivation with a suffix N, realized as genitive morphology. In other words, the genitive morphology categorizes a word as a noun. D, on the other hand, is associated with nominative morphology: nominative morphology results from the affixation of D to N. The nominative morphology hence categorizes a word as a stem with a suffix of category D.

cannot appear with a bare definite article (as shown in (4.15a)) but if there is an RC, the use of the definite article is licit (shown in (4.15b)).[15]

(4.15)   a) *_Marija   otpatuva   utro-_**_to_**_.
          Marija   left   morning-the
          'Marija left in the morning.'   (MACEDONIAN)

        b) _Marija   otpatuva   utro-_**_to_**   *(_koe Todor diplomiraše_).
          Marija   left   morning-the   which Todor graduated
          'Marija left the morning Todor graduated.'

The Macedonian definite article used with temporal adverbs seems to correspond to the Serbian null D: they both require the presence of an RC. In other words, there is a selectional dependency between the D (Macedonian definite article/Serbian genitive case-assigned null D) and the RC. Again, such a dependency is readily captured with the RC-complementation analysis while inexplicable under the NP-adjunct analysis of RCs.

To sum up, the three selectional dependencies observed between (what I argue are) Ds in Serbian and RCs (or, more broadly speaking, restrictive modifiers) show that the implication of the Parameterized DP-Hypothesis, namely that Serbian RCs must be NP-adjuncts, is wrong. The data discussed in this section demonstrate that there are selectional dependencies between determiners and RCs in Serbian, supporting the D-RC complementation view. Such a view entails that there must be DP projection in a language. In the next section, I present the specifics of the analysis I assume, as developed in Larson (1991), Larson (2004) and Larson (forthcomingb).

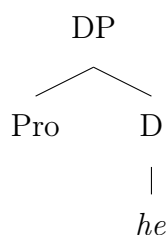[15]Macedonian data are from Ilina Stojanovska, p.c.

4.3 Larsonian dP-shell and RCs

As mentioned in §Chapter 1, I will adopt Larson's proposal for the treatment of determiners since it uniquely settles the tension between the syntactic and semantic view of determiners, as discussed previously. In this section, I will first provide details of his overall proposal and then discuss the specifics of it in relation to RCs, i.e., the selectional dependencies between Ds and RCs as observed in both English and Serbian.
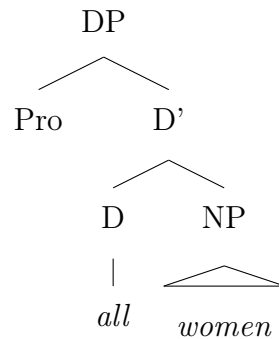
4.3.1 Basic Assumptions

Larson proposes that (a) Ds take noun phrases as their complements (Ds select for NPs: DP-Hypothesis) and (b) Ds do not lack descriptive content (they express relations between properties or concepts: Relational View of Determiners). Under this view, the parallel is drawn between Ds and Vs: they both possess argument structure and valence and, they both assign θ-roles, which are subject to a hierarchical ordering. Accordingly then, Ds can be divided into (a) intransitive (pronouns, repeated here as (4.16)), (b) transitive (binary quantifiers, repeated here as (4.17)) and, (c) ditransitive Ds (comparatives and quantifiers with exception phrases, repeated here as (4.18)).
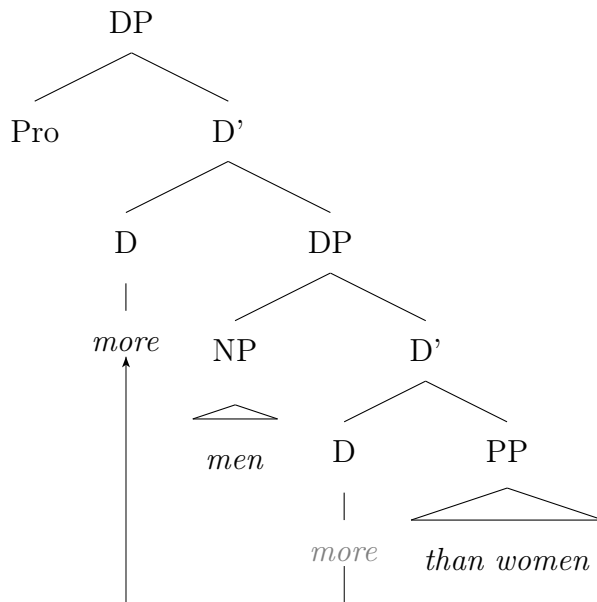
(4.16) INTRANSITIVE D

DP
Pro   D
|
he

(4.17) TRANSITIVE D

```
                    DP
                   /  \
                 Pro   D'
                      /  \
                     D    NP
                     |    /\
                    all  women
```

(4.18) DITRANSITIVE D

```
                        DP
                       /  \
                     Pro   D'
                          /  \
                         D    DP
                         |   /  \
                       more NP   D'
                            /\  /  \
                          men  D   PP
                               |   /\
                             more than women
```

As far as the θ-role assignment and the θ-hierarchy associated with Ds are concerned, Larson argues that Ds assign θ-roles to their set arguments which they play in quantification expressed by Ds. There are basically three θ-roles that Ds can assign: Restriction ([RES]), Scope ([SCP]) and Nominal Oblique ([NOBLIQUE]). Restriction fixes the domain of quantification and is syntactically mapped to the NP complement of D. Scope determines what is true of the individuals in the domain and is associated with a main clause predication while, Nominal Oblique is actually a cover term for a set of θ-roles. These include (a) the third argument of ditransitive Ds (comparatives and quantifiers with exception phrases) and, (b)

optional arguments, such as restrictive modifiers. The former are usually introduced by an oblique element (such as *than* in comparatives); hence the name. The latter can be viewed as a counterpart to optional arguments found in verbal domain, such as benefactives, instrumentals and locatives. I will discuss them in detail shortly. The θ-hierarchy for Ds thus parallels the one proposed for Vs:

(4.19) (taken from Larson (forthcomingb), p5, ex (8))

V: $\Theta_{\text{AGENT}} > \Theta_{\text{THEME}} > \Theta_{\text{OBLIQUE}}$

D: $\Theta_{\text{SCOPE}} > \Theta_{\text{RESTRICT}} > \Theta_{\text{NOBLIQUE}}$
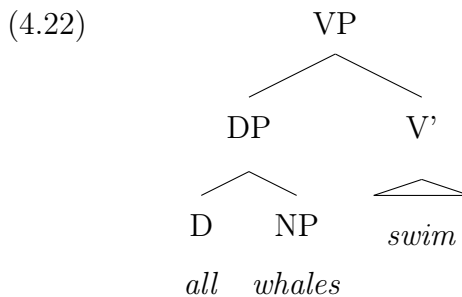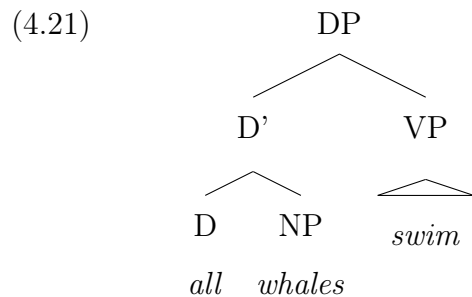
The [RES] and [NOBLIQUE] arguments are associated with the complements of D. However, the [SCP] argument, as mentioned above, is associated with a main clause predicate, i.e., the predicate from the main clause is a direct argument of D. The theory that Larson argues for is based on the theory of argument projection (Larson (1988)), in which the following principle holds:

(4.20) If β is an argument of α, then β must be realized within a projection of α.

(taken from Larson (1991), p5, ex (13))

Hence, the main clause predicate VP needs to be realized within a DP since it is an argument of D. But, the principle is violated if either D takes VP as an argument (4.21) or vice versa (4.22). In the former case, the DP argument is not projected within the VP and in the latter case, the VP argument is not projected within the DP. In other words, DP and VP are arguments to each other.[16]

---

[16]The trees are taken from Larson (1991), p8, ex (19).

(4.21)

```
              DP
             /  \
           D'    VP
          /  \    \
         D   NP   swim
        all  whales
```

(4.22)

```
              VP
             /  \
           DP    V'
          /  \    \
         D   NP   swim
        all  whales
```

To resolve this conflict, Larson (1991) proposes that 'the syntactic scope argument of D is in fact <u>never</u> an overt predicate in the clause [...] Rather, the scope argument D is an independent, inaudible, pro-predicate element *Pro*, licensed by D, and projected in Spec of DP, under the hierarchy $\Theta_{\text{SCOPE}} > \Theta_{\text{RESTRICT}}$. [...] the semantic value of this *Pro* argument is determined configurationally at the level of Logical Form. Specifically *Pro* gets its value from the derived predicate that is the structural sister of DP at LF.' (p9) Hence, the argument that is assigned θ-role of [SCP] is a non-overt *Pro*, whose value is determined after DP has raised by QR.

Further, Larson follows Hornstein (1999) and assumes that θ-roles are formalized as θ-features and that θ-role assignment is θ-feature agreement. The θ-feature agreement is considered to be the selection relation between D and its complement. The agreement system that Larson assumes is the one proposed by Pesetsky and Torrego (2004). In this system, θ-features are <u>interpretable</u> on the *arguments* of heads while they are <u>valued</u> on the *heads*. All heads can bear only one valued feature. Given this restriction, it is necessary to introduce little d in the structure (analogous to little v) because otherwise D would end up having two valued features ([RES] and [SCP]). The properties of little d are the following:

(4.23) (taken from Larson (forthcomingb), p8)

Light d: Bears a strong D feature. Bears an EPP feature. Bears one valued occurrence of a θ-feature unvalued on a D with which it was co-selected.

The DP structure proposed is hence accordingly dubbed **dP-shell** on a par with the *v*P-shell in the VP domain. Having introduced all the relevant assumptions, let me illustrate what a derivation of a transitive D for instance looks like in this system. I will look at the example: *Every man laughed.* First, D *every* selects its complement that is ranked the lowest on the θ-hierarchy, which, in this case, is the restriction argument *man*. The [RES] feature is interpretable on the argument (NP: *man*) of the D head (*every*) while it is valued on the head. Once the agreement takes place, the D head needs to have its other θ-feature ([SCP]) valued and interpreted. Since heads can have only one valued feature, D itself cannot have a valued [SCP] feature. In order to have this feature valued, little d is merged in the structure, carrying an uninterpretable but valued [SCP] feature. Subsequently, D raises to d and the two agree. Little d has an EPP feature (4.23) and this feature is satisfied by merging *Pro*. The *Pro* element has an interpretable [SCP] feature which probes the valued instance of it on d and the two agree. The result is an interface-legible DP structure since all the features have undergone agreement and they are all interpreted and valued.

(4.24) (taken from Larson (forthcomingb), p8, ex (16))
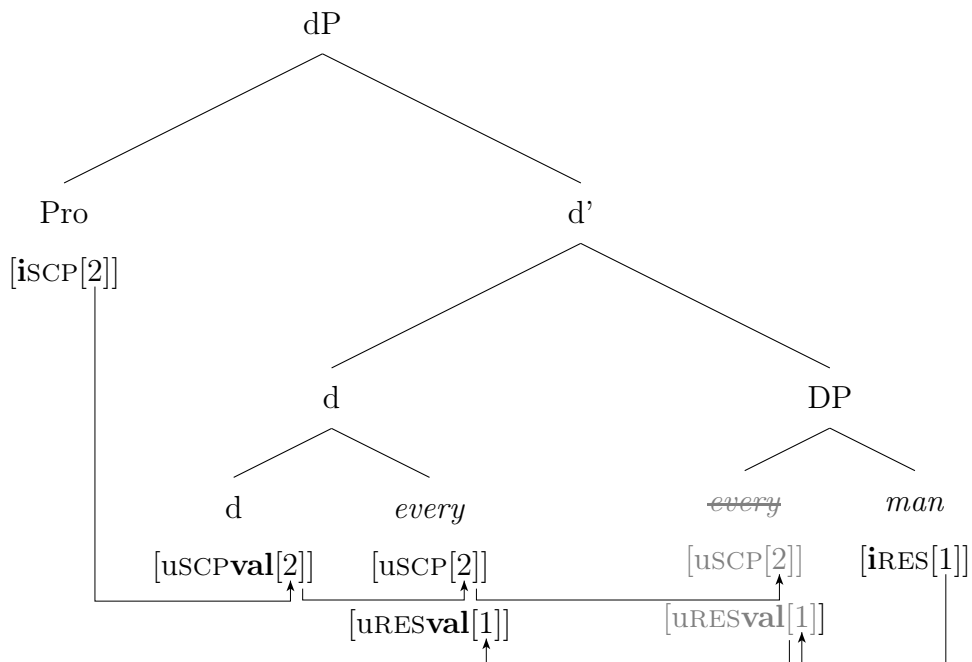
Pro, however, needs to have its value determined; hence, the DP is raised by QR and the value of *Pro* is identified by the structural sister of dP, which is the TP (t_{dP} *laughed*), as shown below in (4.25).

(4.25) (adapted from Larson (1991), p10, ex (22c))
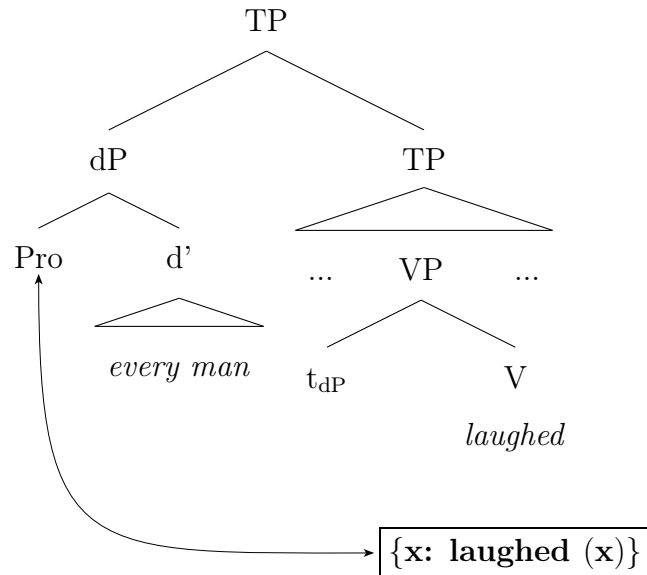
4.3.2 Restrictive Modifiers

Restrictive modifiers are, as already mentioned, optional arguments of D in this system and they include adjectives, PPs and RCs. The θ-role that they are assigned is Restrictive Modifier ([RMOD]) and it is ranked low on the thematic hierarchy (like other [NOBLIQUE] θ-roles). Therefore, D first combines with the restrictive modifier, and then with a noun, yielding the following structure: [N D **ResMod**]. PPs and RCs surface in this position.[17] However, adjectives in languages such as English, surface in a position preceding the noun but following the D: [D **ResMod** N]. The question is then how is this word order derived.

---

[17]We have seen in the derivation (4.24) that D raises to little d; hence the determiner throughout the derivation ends up in a position so that it linearly precedes the noun.

Larson (1991) suggests, following Smith (1964) and Jacobs and Rosenbaum (1968), that pre-nominal adjectives (preceding nouns and following determiners) originate as post-nominal adjectives (following both nouns and determiners) and that they obtain their surface order position by voice alternation (on a par with double object datives and prepositional datives). To show how this works, I will first present the voice alternation in the verbal domain and then extend it to the nominal domain.

For voice alternation, both θ- and case-feature agreement relations are relevant. Larson makes the following assumptions:

(4.26)   a) Every argument must bear an interpretable θ-feature.

   b) Every [+N] element must bear an uninterpretable case feature.

   c) Every head can have only one instance of a valued θ-feature.

The elements that are relevant for our discussion are Ps, Ns and Vs/Ds. The following are the feature characteristics associated with Ps and Ns in English (as argued by Larson):

(4.27)   a) Prepositions bear uninterpretable valued θ-features and interpretable unvalued case features.

   b) Nouns bear interpretable unvalued θ-features and uninterpretable valued case features.

Hence, the relation between the Ps and Ns (as arguments of Ps) is symmetric: P values the interpretable θ-feature on the N and the N values the interpretable case feature on the P. On the other hand, the relation between little v and its arguments is not always symmetric.

(4.28)   a) Little v bears uninterpretable valued θ-features.

   b) Nouns bear interpretable unvalued θ-features and uninterpretable valued case features.

246

Larson proposes that only the little v head bearing [AG] and [GL]-features also carries interpretable unvalued case features (indicated with the brackets in the table below).
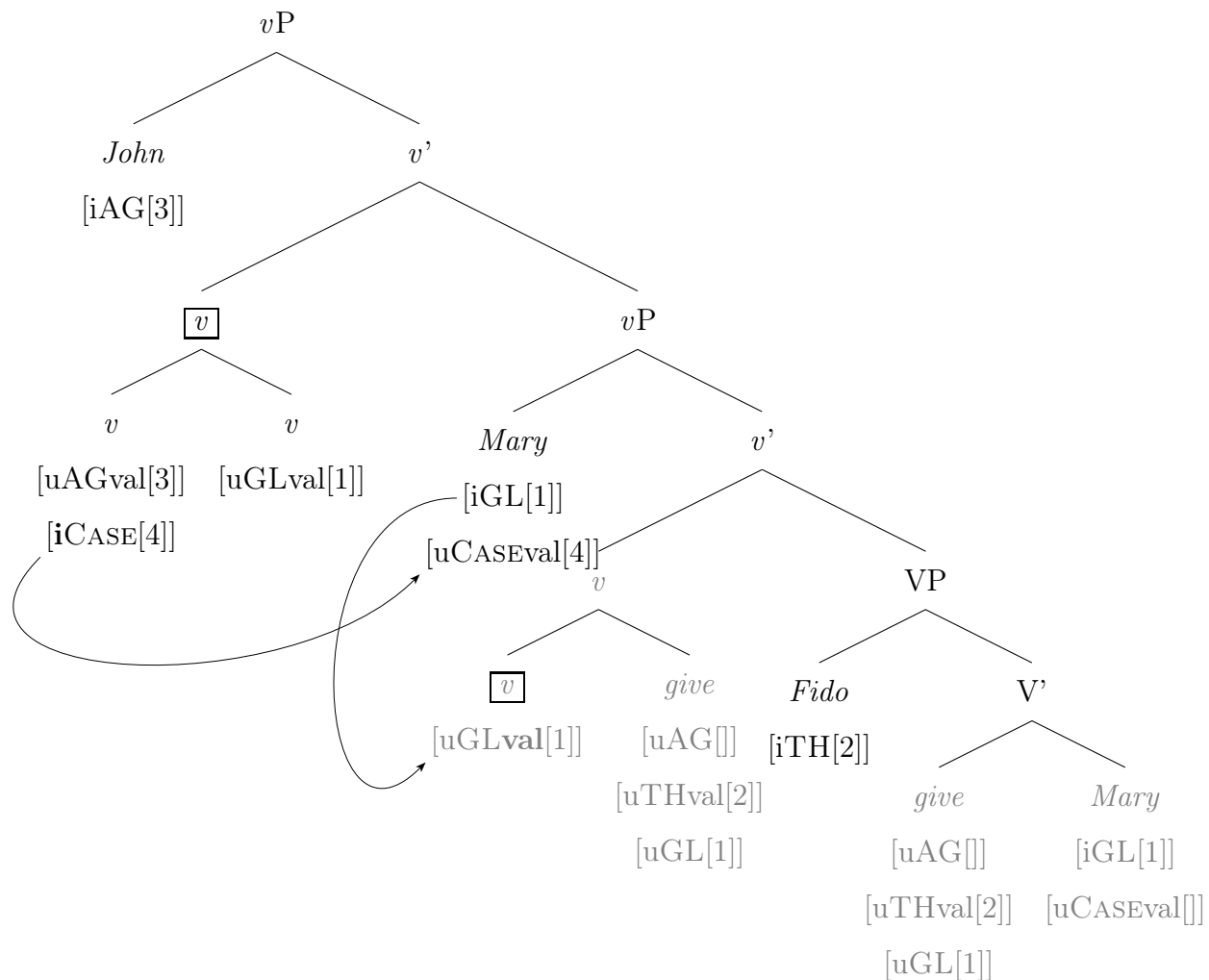
(4.29) FEATURES OF PREP AND LITTLE v

PREP	ARG
$[u\theta\mathbf{val}]$, $[i\text{CASE}]$	$[i\theta]$, $[u\text{CASE}\mathbf{val}]$
LITTLE v	ARG
$[u\theta\mathbf{val}]$, $([i\text{CASE}])$	$[i\theta]$, $[u\text{CASE}\mathbf{val}]$

Such a proposal accounts for the dative alternation observed in English. In particular, in prepositional dative structures, the P is present in the structure and the valued case feature on its argument (N) undergoes agreement with the interpretable instance of the same feature on P, rendering the correct feature formation (the feature is both interpretable and valued). Further, the P head also satisfies the requirement of having only one instance of a valued θ-feature, conforming to (4.26c).

On the other hand, in the double object dative construction, the P is missing from the structure. Hence, the argument of a verb bearing a [GL]-feature merges directly with V. However, the V lacks two relevant features needed for the satisfactory feature formation: (a) it does not have a valued [GL]-feature because of the restriction on the number of instances of valued θ-features a head can have (as indicated in (4.26c)), i.e., it already contains a valued [TH]-feature and, (b) it does not have an interpretable unvalued case feature because only the little v with [AG] and [GL]-features also carries interpretable unvalued case features (no other V does). To resolve the first problem, a little v bearing a valued [GL]-feature is merged in the structure. The N moves to its Spec position and the agreement takes place. Consequently, the [GL]-feature is well-formed: it is both interpretable and valued. Next, the little v bearing an interpretable unvalued case feature is merged. Its case feature probes the uninterpretable valued instance of it on the N, the agreement takes place and the feature is well-formed.

The tree diagram below shows the relevant fragment of the derivation (irrelevant structure is suppressed).

(4.30) (adapted from Larson (forthcomingb), p16, ex (38))

```
                              vP
                         ┌─────┴─────┐
                      John            v'
                    [iAG[3]]      ┌────┴────┐
                                  v          vP
                               ┌──┴──┐   ┌────┴────┐
                               v     v  Mary        v'
                          [uAGval[3]] [uGLval[1]] [iGL[1]]  ┌──┴──┐
                          [iCASE[4]]          [uCASEval[4]]  v      VP
                                                    v     ┌──┴──┐ ┌──┴──┐
                                                    v  give Fido      V'
                                              [uGLval[1]] [uAG[]] [iTH[2]] ┌──┴──┐
                                                      [uTHval[2]]      give    Mary
                                                      [uGL[1]]       [uAG[]]  [iGL[1]]
                                                               [uTHval[2]] [uCASEval[]]
                                                               [uGL[1]]
```

Such a proposal explains the voice alternation in English observed in double object dative constructions. Note that no other construction (such as, instrumentals, locatives) allows the alternation. The explanation for this lies in the assumption that there is only one type of little v that can bear an interpretable unvalued case feature and that is the little v associated with [AG] and [GL]-features. All other little vs lack the relevant case feature. Consequently,
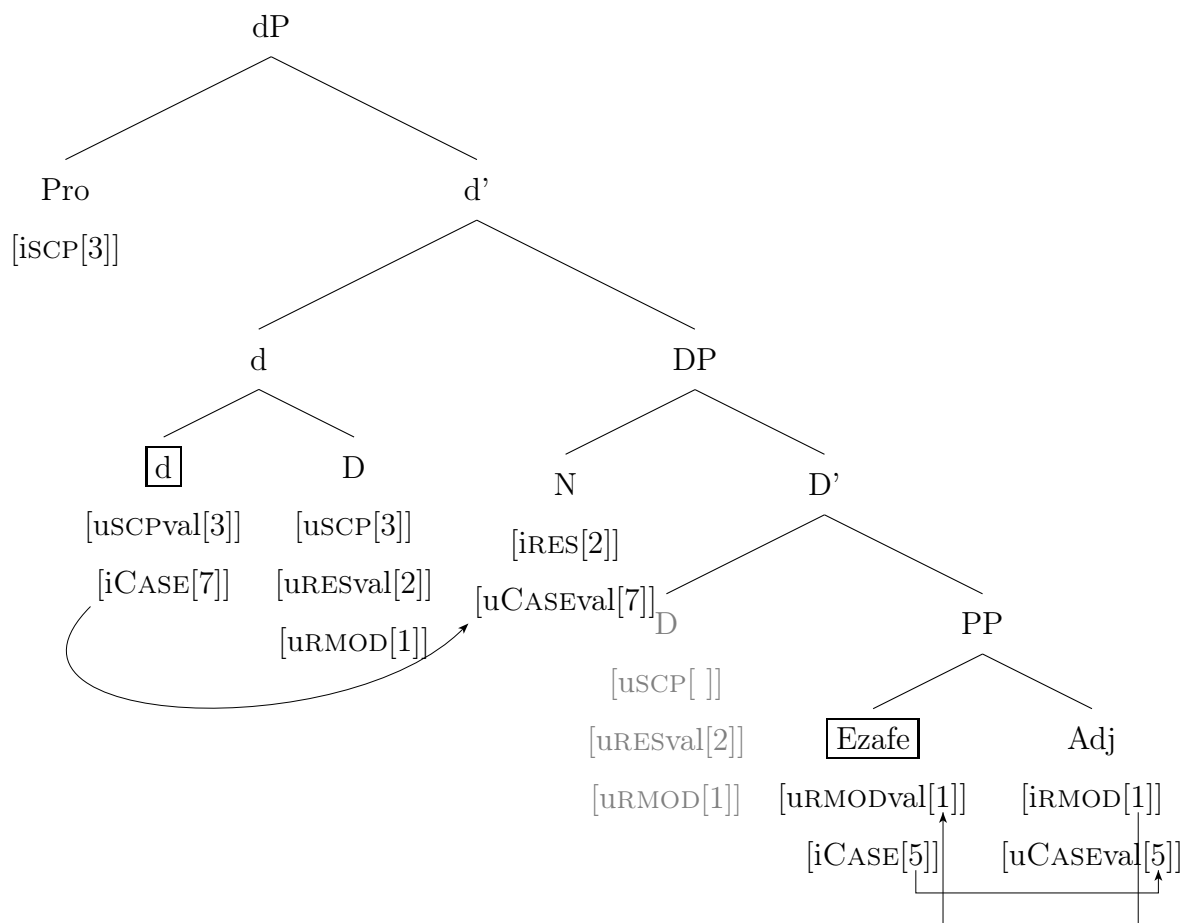
if there is no preposition in the structure that contains locative for instance, the case feature on the restriction argument N remains uninterpretable, rendering the structure unacceptable.

In the d/D system, the adjectives are restrictive modifiers that are uniformly merged with D (post-nominally). In post-nominal languages, such as Persian, Kurdish, Zazaki, Hawrami, adjectives are accompanied by a preposition-like element (which Larson refers to as *Ezafe*) and they show no agreement with the noun. These observations are reminiscent of prepositional datives in the verbal domain. The *Ezafe* element, as a P, has an uninterpretable valued θ-feature [RMOD] and an interpretable unvalued case feature. Its complement (an adjective) has an interpretable unvalued θ-feature [RMOD] and uninterpretable valued case feature.[18] The θ- and case-features of the *Ezafe* and an adjective enter the agreement relation. Both features are well-formed (interpretable and valued), rendering the structure acceptable.

The restriction argument of D is N, which has an uninterpretable valued case feature. This feature needs to enter the agreement relation with an interpretable instance of it in order to be well-formed. Larson suggests that, on a par with the little v associated with [AG] and [GL]-features, and bearing interpretable unvalued case feature, the little d associated with the [SCP]-feature bears an interpretable unvalued case feature and no other d does. Hence, the case feature on a restriction argument (N) agrees with the interpretable instance of it on little d rendering the well-formed feature.

---

[18]To argue that adjectives bear uninterpretable valued case feature strongly suggests that adjectives are noun-like, since we have seen above that Ns bear the exact same case features. In fact, such an argument has empirical support: Karimi and Brame (1986) argue that adjectives in *Ezafe* languages are Ns, based on their distributional properties.

(4.31) P<small>OST</small>-N<small>OMINAL</small> A<small>DJECTIVES</small>

```
                                dP
                    ┌───────────┴───────────┐
                  Pro                       d'
                [iSCP[3]]          ┌─────────┴─────────┐
                                   d                   DP
                            ┌──────┴──────┐      ┌──────┴──────┐
                           [d]            D      N            D'
                       [uSCPval[3]]   [uSCP[3]]  [iRES[2]]  ┌───┴────┐
                       [iCASE[7]]    [uRESval[2]] [uCASEval[7]]      PP
                                     [uRMOD[1]]       D        ┌─────┴─────┐
                                                   [uSCP[ ]]  [Ezafe]     Adj
                                                   [uRESval[2]] [uRMODval[1]] [iRMOD[1]]
                                                   [uRMOD[1]]  [iCASE[5]]  [uCASEval[5]]
```

On the other hand, in pre-nominal languages (such as English, Serbian, Macedonian, Pashto), no preposition-like element is merged into the structure (on a par with double object dative structure in which the preposition *to* is missing). Given the restriction that a head can have only one instance of a valued θ-feature, D cannot have a valued [R<small>MOD</small>]-feature since it already has a valued [R<small>ES</small>]-feature. Hence, the little d, bearing a valued [R<small>MOD</small>]-feature is merged into the structure (on a par with little v in the verbal domain, bearing the valued [G<small>L</small>]-feature). The adjective raises to the Spec of little d and the [R<small>MOD</small>]-feature is well-formed. As far as case is concerned, the pre- and post-nominal languages differ in that the adjectives in the former type bear uninterpretable <u>unvalued</u> case feature whereas, in

the latter type, they bear uninterpretable <u>valued</u> case feature. The proposed difference thus captures the parametric variation between the two types of languages (Larson, p.c.). When an adjective in a pre-nominal language moves to the Spec-position of the little d, where its [RMOD]-feature is valued, it also enters the agreement with both the interpretable unvalued case feature on the little d associated with the [SCP]-feature and the uninterpretable valued case feature on the restriction argument, N. Consequently, the case feature is well-formed. Further, the observation that pre-nominal adjectives show agreement with the N falls out naturally. The diagram below shows relevant derivation steps and agreement relations among the θ- and case-features.

(4.32) PRE-NOMINAL ADJECTIVES

251
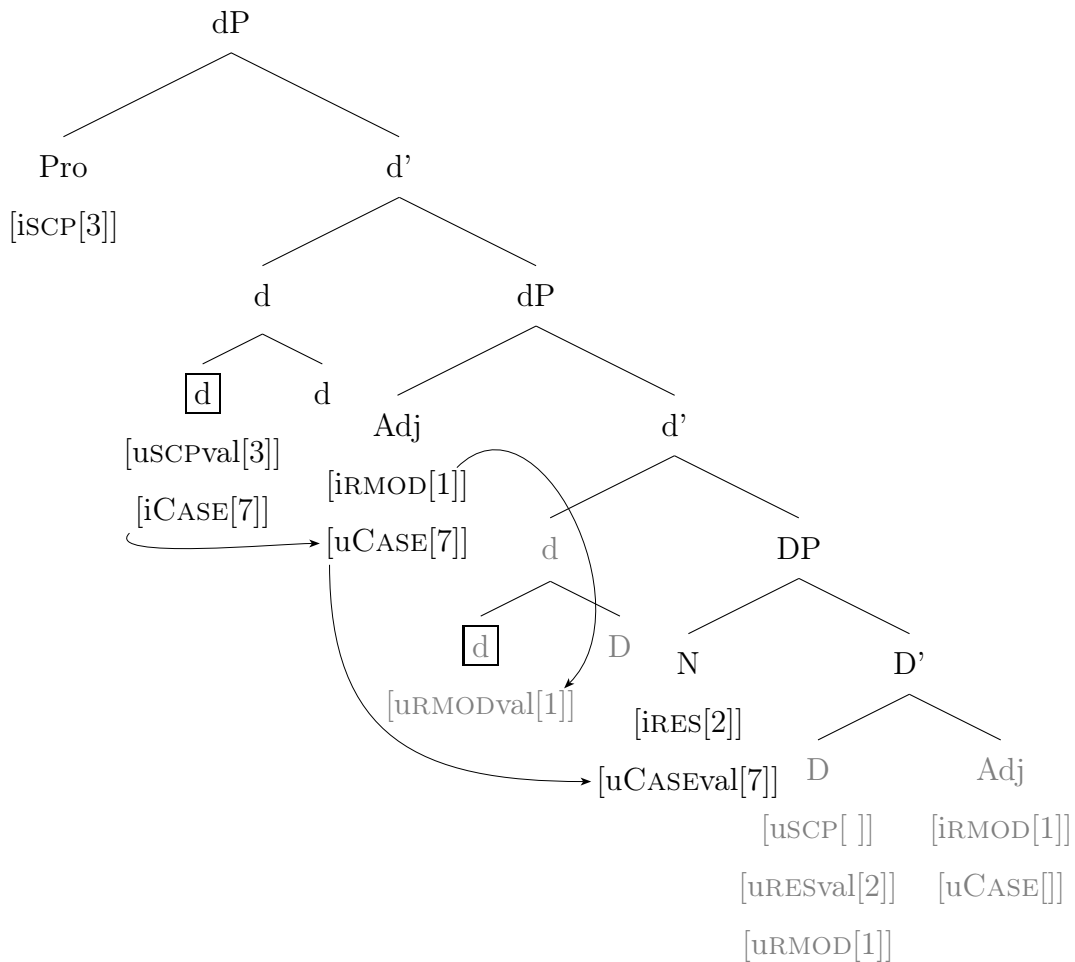
PPs and RCs, unlike adjectives in pre-nominal languages, surface in their base position: they are complements of D and linearly follow the D head that selects them. In the case of RCs then, 'this proposal resurrects the Article-S analysis insofar as D and the relative clause form an underlying constituent that excludes the noun.' (Larson (1991), p19) In the course of the derivation, the D head raises to the little d, which is merged into the structure as a bearer of the uninterpretable valued [SCP] feature. The interpretable unvalued [SCP] feature of *Pro* probes the uninterpretable valued instance of the same feature on little d, resulting in the interface-legible feature. Similarly, the restriction argument NP, bearing an interpretable unvalued [RES] feature probes the uninterpretable valued instance of the same feature on D and the two agree. As far as the [RMOD] feature is concerned, it is uninterpretable and unvalued on D (as was the case with adjectives). RC itself bears interpretable and valued [RMOD] feature. It is however not specified what element inside the RC bears the interpretable feature. A potential candidate is C, the head of CP. Larson (p.c.) suggests that when items change from being Ps to Cs (following the idea of Emonds (1985) that featurally, Ps and Cs are essentially the same category) they change from being the bearers of valued θ-features to being bearers of interpretable θ-features.[19] As far as case features are concerned, the restriction argument NP (with uninterpretable valued case feature) enters the agreement relation with the little d (interpretable unvalued case feature), rendering the well-formed feature. RCs and PPs do not enter into external case agreement. The tree diagram below shows the relevant case and θ-features agreement.

---

[19]It is widely observed that restrictive modifiers can be used recursively. Such a behavior is easily accounted for given that there is little d in the DP structure. Recursion is freely available in DP as it is in VP. Hence, no additional stipulation is needed to account for the recursion of restrictive modifiers.

(4.33) (adapted from Larson (1991), p19, ex (45))
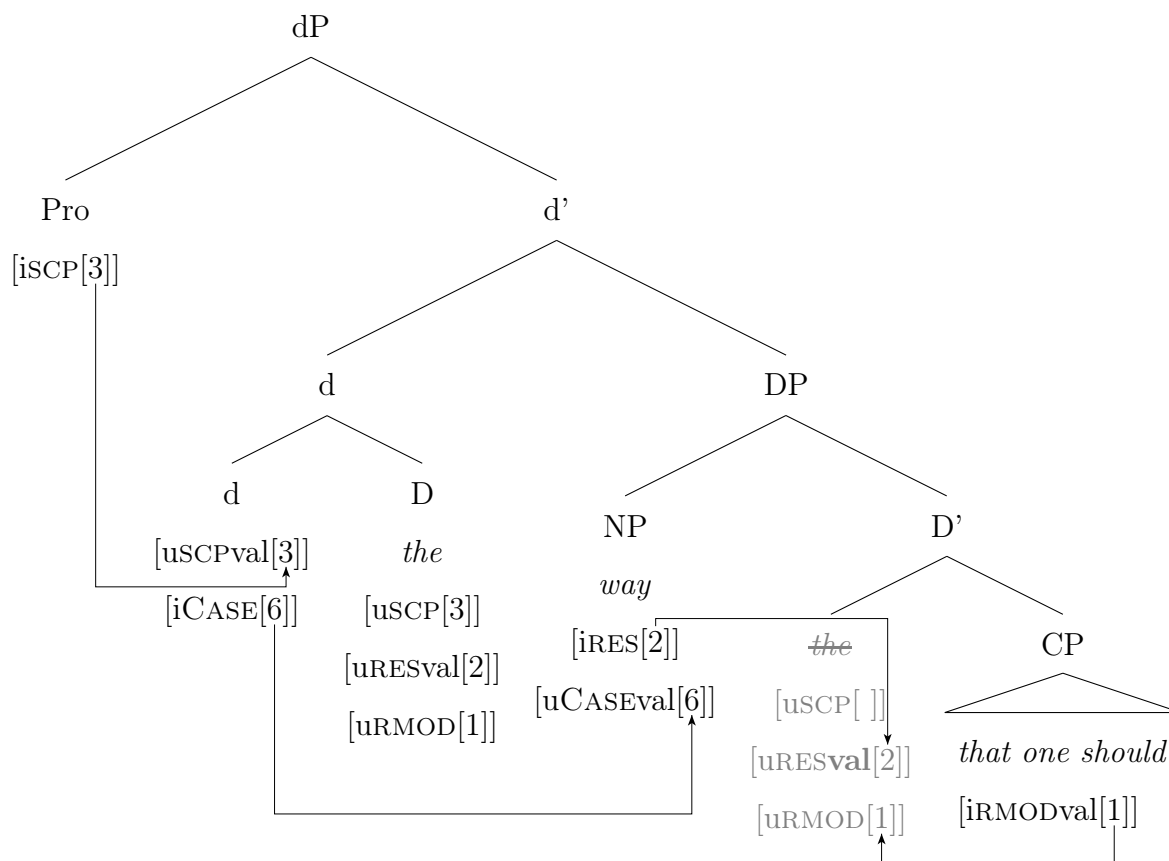
Such analysis of RCs, which Larson dubs **Complex Determiner Analysis** (CDA), very much resembles the first analysis of RCs offered in the generative grammar, as shown in (4.3) above (Smith (1964)). The crucial assumption is that the D head selects RC as its argument, immediately tracking the observed selectional dependencies between the two elements, as discussed in the previous section. The dependencies are shown to exist not only in English, a language uncontroversially assumed to project DP, but also in Serbian, a language whose nominal structure is a matter of a controversy. The CDA analysis presented above successfully tracks the distribution of Ds and RCs in both English and Serbian, whereas the NP-adjunction analysis, as advocated by the proponents of the Parameterized DP-Hypothesis, is faced with a rather perplexing set of Serbian data.

4.4 Some Further Issues: Serbian D and Genitive Case

In section 4.2 (Selectional Dependency between D and RC), in the discussion on Serbian temporal adverbs, I proposed that the D head of temporal adverbs that appear in genitive case is a complement of a little d that assigns genitive. However, I did not provide any specifics of such a proposal or its consequences so, it might have seemed *ad hoc*. In this section, I attempt to resolve this drawback. I essentially argue that Serbian d assigns genitive case to its complements (restriction argument and sometimes obliques), which can be over-ridden by a case that the dP gets from an element that selects it as its argument. If the dP gets no case, d complements surface in genitive. To provide arguments for such a proposal, I discuss environments in which dPs are in structural positions in which there are no dP case-assigners. These include: (a) some adjuncts: temporal and manner adverbs, (b) defective Ts: existential and *there*DEM-constructions and, (c) 'buried' dPs: restrictive modifiers and some quantifiers. I will discuss them in turn below.

4.4.1 Temporal and Manner Adverbs

Serbian temporal adverbs, as we have already seen, can surface as PPs or, genitive case-marked nouns with an obligatory modifier.[20] In the PP form, the assumption is that the preposition assigns case to the dP, overriding the genitive case assigned by d (as shown in (4.34a)). However, if there is no preposition, the genitive case assigned by the d surfaces on its complements: the noun and modifier, as shown in (4.34b). Since temporal adverbs are standardly assumed to be adjoined into the structure (but see below for the view that they are in fact complements of verbs), when there is no preposition, there is no case-assigner in the structure. Hence, the noun and the modifier of the temporal adverb surface in genitive case assigned to them by a d head.

---

[20]There is, however, cross-linguistic variation regarding the case of temporal adverbs. Yadroff (1999) for instance discusses Russian and notices that temporal adverbs surface in accusative case. I leave the question of cross-linguistic variation for future research.

(4.34) a) *Marija je   otputovala* [*u* **utorak**].
          Marija AUX left   in Tuesday.**ACC**

          'Marija left on Tuesday.'   (SERBIAN)

     b) *Marija je   otputovala* [*prošlog* **utorka**].
          Marija AUX left   last.**GEN** Tuesday.**GEN**

          'Marija left last Tuesday.'

Manner adverbs show the exact same distribution. They can be used as PPs (4.35) or, as genitive case-marked nouns with obligatory modifiers (4.36). And, here again, genitive shows up on the complements of d when there is no preposition to override the case:

(4.35) *Otišla je*   [*s*   **osmehom**].
       left   AUX with smile.**INST**

      'She left with a smile on her face.'   (SERBIAN)

(4.36) (taken from Đurić (2009), p75, exs (4.1c) and (4.1d) respectively)

     a) *Pomoćiću ti*   [*drage*   **volje**].
          help.will   you good.**GEN** will.**GEN**

          'I'll help you willingly.'   (SERBIAN)

     b) *Hoda* [*zatvorenih* **očiju**].
          walk   closed.**GEN** eyes.**GEN**

          'She is walking with her eyes closed.'

In the theory advocated in this work, adverbs are complements of verbs (Larson (1991)).[21] Such a proposal is based on the following observations: (a) adverbs that are on the right typically exhibit behavior as if they were in the domain of other VP elements, such as objects; for instance, object can license a negative polarity item in the adverbial, assuming that the licensing is based on c-command, as shown in (4.37) and, (b) there are verb-adverbial idioms in English, which suggest that there is a discontinuous dependency between the verb and the adverbial, as shown in (4.38) below.

---

[21]See Stjepanović (1996) for a criticism of such a view.

(4.37) (taken from Larson (1991), p16, ex (37))

    a) *John met <u>few</u> friends [**any** day this week]*.

    b) *Alice speaks <u>few</u> languages [with **any** fluency]*.

    c) *Gwen does <u>few</u> things [because **anyone** asks her to]*.

(4.38) (taken from Larson (1991), p16, ex (38))

    a) [$_{VP}$ ***treat** John **with kid gloves***] ('treat carefully')

    b) [$_{VP}$ ***rub** John **the wrong way***] ('bother')

    c) [$_{VP}$ ***put** John **on the spot***] ('confront')

    d) [$_{VP}$ ***kill** John **with kindness***] ('be very solicitous toward')

Therefore, the adverb, as a verb complement, gets a θ-role: [OBLIQUE]. The assumption is that the verb does not assign it a case, only the θ-role. If there is a preposition, then the preposition is the source of the case on the nominal; but, if there is no preposition in the structure, then the only available case-assigner is d. If Serbian d assigns genitive to its complements, the genitive case surfacing on the temporal (4.34b) and manner adverbials (4.36) shown above receives a uniform account. That is, the proposal is compatible with the standard (adjunction) treatment of adverbs as well as the treatment advocated in the theory developed by Larson and adopted here (complementation).

So far I have been focusing on so-called 'nominal adverbs', i.e., adverbs that contain a noun. Apart from nominal adverbs, there are also indeclinable adverbial elements, such as *jutros* 'morning', *danas* 'today', *tamo* 'there', etc. The proposal argued for here holds for these expressions as well. There are in fact two possible explanations: (a) these elements are AdvPs and hence, there is no DP involved (unlike nominal adverbials) or, (b) they are restriction arguments of D but since they are indeclinable, the genitive case is not overtly marked on them.

However, note that the empirical picture of Serbian temporal and manner nominal adverbs is an idealization. There are in fact nominal adverbs that do not conform to the distributional generalization sketched above, which naturally present a challenge to the proposal. For instance, Serbian has preposition-less nominal adverbs of location that surface in instrumental case. Therefore, the source of instrumental case needs to be somehow accounted for. As noted by Bošković (2006a), citing Franks (2002), it is unlikely that the source of instrumental case is a non-overt P, given that the P, associated with the case cannot surface overtly:

(4.39) ((4.39a) taken from Bošković (2006a), p530, ex(27a))

    a) *Trčao je [**šumom**].*
       run   AUX   forest.**INST**
       'He ran through the forest.'   (SERBIAN)

    b) **Trčao je [s   **šumom**].*
       run   AUX   with forest.**INST**
       'He ran through the forest.'

To account for these data, Bošković (2006a) proposes that bare adjuncts appearing in an inherent case are in fact not subject to the Case Filter. '[T]he function of the instrumental case [in (4.39a)], which is not checked/assigned by anything, is to identify the precise semantic role of the adverbial [...] with different Cases identifying different semantic roles' (Bošković (2006a), p530). The inherent case (instrumental) is semantically interpretable and following Chomsky (1995) the assumption is that interpretable features do not need to be checked. The identification of semantic role of the adverbial is associated with different cases it can bear and is illustrated with the following two examples (though different semantic roles associated with dative and instrumental respectively are not stated).[22]

---

[22]Likewise, Bošković (2006a) claims that Serbian prepositions can identify the semantic role of the adjunct and when they do, they are interpretable inherent case markers and not case-checkers.

(4.40) (taken from Bošković (2006a), p530, exs (30) and (31) respectively)

a) *On ide   **Ivanu**.*
   he walk Ivan.**DAT**
   'He is walking toward Ivan.'   (SERBIAN)

b) *On ide   **ulicom**.*
   he walk street.**INST**
   'He is walking down the street.'

Under this view then, the nominal adverb inherently bears a semantically interpretable inherent case feature which identifies its semantic role. However, note that the same instrumental case that identifies the location in (4.39a) can also be used to identify time (4.41a) or manner (4.41b), as shown in Browne and Alt (2004), section 2.1.1.2.1.6(.1):

(4.41)   a) *Putujemo [<u>velikom</u>   **brzinom**].*
           travel   great.**INST** speed.**INST**
           'We travel with great speed.'   (SERBIAN)

b) <u>*radnim*</u>   ***danom***
   working.**INST** day.**INST**
   'on work days'

Given the data in (4.41), the interpretable semantic feature of inherent case whose function is to identify the precise semantic role of the adjunct fails on empirical grounds. We are faced with the same inherent case, instrumental, identifying three semantic roles: location, time and manner. Furthermore, Bošković treats genitive case in nominal domain as structural and not inherent (Bošković (to appearb)). The interpretable semantic feature identifying the precise semantic role is associated exclusively with inherent cases. Therefore, something additional needs to be said about the genitive case-marked adjuncts discussed above in his theory.

What could be argued instead to account for the instrumental case-marked nominal adverbs is that there is an additional structure above dP (where d still assigns genitive case to

its restriction argument) which is responsible for instrumental case and θ-role assignment. This structure does not need to be PP given that the overt P is unacceptable, as argued by Franks (2002) and adopted by Bošković (2006a). I will leave it open here what the relevant structure is. Such a proposal is a mere speculation that needs further support and evidence, which I leave for future research.

The genitive case-marked temporal and manner nominal adverbs show that the source of the genitive can be accounted for by assuming that the little d assigns genitive case to its complements in Serbian and that it surfaces when not overridden by other cases (the lack of an outside case assigner).

4.4.2 Existential and *There*_{DEM}-Constructions

Another structure in which an external case assigner is not present above the dP is an existential construction which contains the verb *imati* 'to have'. English counterparts are structures containing the expletive *there* and the verb *be*:

(4.42) *Ima* **dece** *na ulicama.*
    have children.**GEN** on streets
    'There are children on the streets.' (SERBIAN)

The argument (*dece* 'children') of the verb *imati* surfaces in genitive case. If we make an assumption that the T in existential constructions does not assign case, the observed distribution of genitive case falls out.[23] Following the same logic used for the temporal and manner adverbs above then, since the argument dP does not get case from outside, its arguments surface in genitive case, assigned by little d.

Note that the verb *biti* 'to be' is used instead of the verb *imati* 'to have' in the Serbian existential structures when the tense is either past (4.43a) or future (4.43b). If the tense is present, as in (4.42) above, the verb *imati* 'to have' is used.

---

[23]This is contrary to English, where expletives are assumed to receive case from T.

(4.43)   a) *Bilo je   **dece**   na ulicama.*
         been AUX children.**GEN** on streets
         'There were children on the streets.'   (SERBIAN)

      b) *Biće   **dece**   na ulicama.*
         be.will children.**GEN** on streets
         'There will be children on the streets.'

This observation does not necessarily change anything about the proposal made here. The T in existential structure does not assign case, regardless of the verb that appears in it, so the dP surfaces in genitive.[24]

There is another structure in Serbian that is similar to the existential structure discussed above in the relevant respect. In this structure, a demonstrative is used to deictically point to an entity. The English counterpart can be either *There is X* or *Here is X*. Unlike in the existential structure, the *there* in this structure is a demonstrative, not an expletive. Hence, I refer to these structures as *there*$_{\text{DEM}}$.[25]

(4.44) *Eno   profesora.*
       there professor.**GEN**
       'There is a professor.'   (SERBIAN)

In the Serbian structure *there*$_{\text{DEM}}$, I assume that there is no case-assigner to the dP; hence, the noun *profesor* 'professor' surfaces in genitive, assigned by the little d. The two

---

[24]The genitive that appears in existential structures in Serbian with the verb *imati* 'to have' shows a different behavior from the phonologically same verb used outside the existential structures. The non-existential version of the verb assigns accusative case to its argument:

(i) *Marija ima dugačku kosu.*
    Marija have long hair.**ACC**
    'Marija has long hair.'   (SERBIAN)

The same distribution holds for the negative counterparts of the existential and non-existential versions of the verb *imati* 'to have'. Serbian, unlike some other Slavic languages, does not have genitive of negation.

[25]In the example (4.44), I used the demonstrative *eno* 'there'. The same observation regarding the genitive case holds if the other two demonstratives are used: *evo* 'here' and *eto* 'yonder'.

structures: existential and *there*_{DEM} hence receive a principled account regarding the genitive case that the nouns appear in.

4.4.3 Restrictive Modifiers and Some Quantifiers

The last two environments I discuss in regards to the genitive case-assignment of little d are the structures in which Ds take dPs as their complements and some instances of quantifiers. I will discuss them in turn.

Unlike English, for instance, Serbian allows dPs to be used as restrictive modifiers. I will mark them as dP_{RES.MOD}:

(4.45) a) *devojka* [_{dP_{RES.MOD}} ***plavih   očiju***]
        girl   blue.**GEN** eyes.**GEN**
          'a blue-eyed girl'   (SERBIAN)

  b) *devojka* [_{dP_{RES.MOD}} ***dobrih   kvalifikacija***]
     girl   good.**GEN** qualifications.**GEN**
     'a girl with good qualifications'

The dP_{RES.MOD} are genitive case-marked. Under the proposal advocated in this work, restrictive modifiers are optional arguments of Ds. In (4.45), the Ds with the restriction argument [_{NP} *devojka*] 'girl' take dP restrictive modifiers (dP_{RES.MOD}) as their optional oblique arguments: [_{dP_{RES.MOD}} *plavih očiju*] 'blue eyes' and [_{dP_{RES.MOD}} *dobrih kvalifikacija*] 'good qualifications' respectively. These restrictive modifiers are dPs, which means that the little ds of restrictive modifiers assign genitive case to their arguments: restriction arguments (nouns: *očiju* 'eyes' and *kvalifikacija* 'qualifications') and optional oblique arguments (adjectives: *plavih* 'blue' and *dobrih* 'good'). Since there is nothing that can override the genitive case (D that selects for the dP restrictive modifiers does not assign case), the restrictive modifier dPs surface in genitive. Let me illustrate this with an example. In (4.46) below, we have an instance of a direct object dP containing a dP_{RES.MOD}:
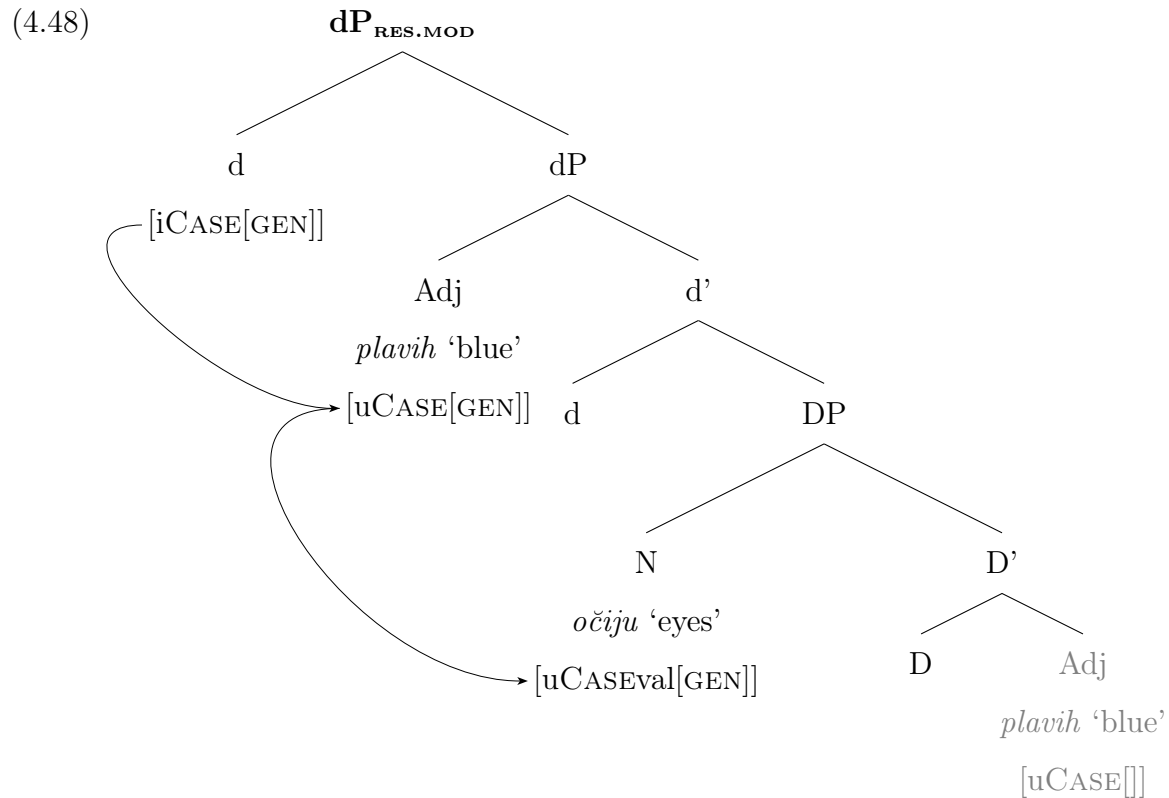
(4.46) *Video   sam* [$_{dP}$ *devojku* [$_{dP_{RES.MOD}}$ **plavih   očiju**   ]].
    seen   AUX   girl.**ACC**   blue.**GEN** eyes.**GEN**
    'I saw a girl with blue eyes.'   (SERBIAN)

The verb assigns accusative case to the object dP, which is morphologically marked on the noun *devojku* 'girl'. The diagram below shows the relevant case features (the irrelevant structure is suppressed).

(4.47)
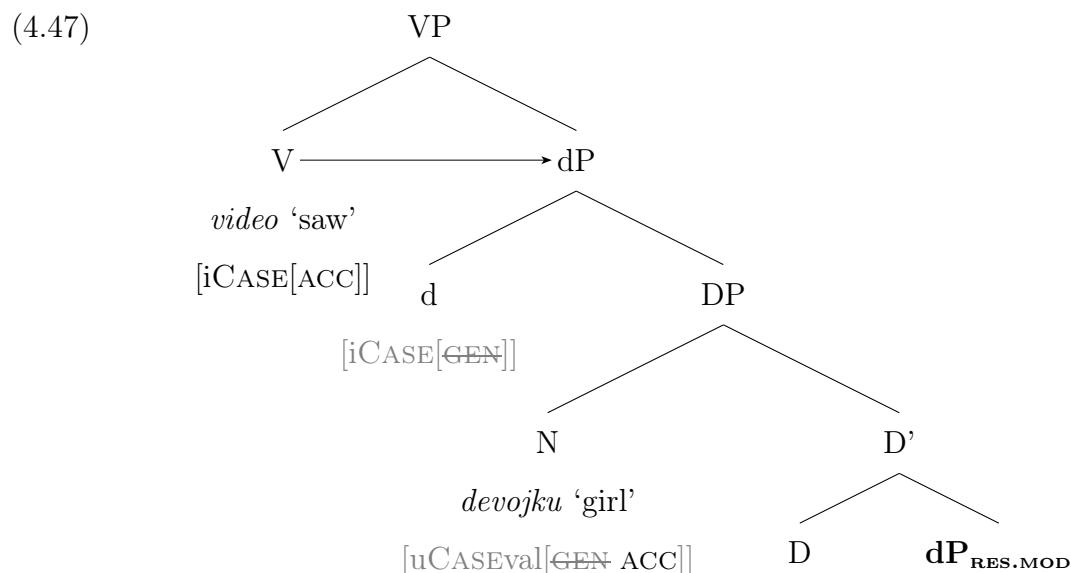
The restrictive modifier of the direct object however surfaces in genitive. The dP$_{RES.MOD}$ is an optional argument of the D, i.e., it is in such a structural position that it cannot be assigned accusative by the verb, *video* 'saw': it is 'buried' inside the direct object dP. Since the genitive case assigned by the little d of the dP$_{RES.MOD}$ cannot be overridden, the complements of dP$_{RES.MOD}$ surface in genitive. The diagram in (4.48) shows the dP$_{RES.MOD}$ and the genitive case assignment within that dP.[26]

---

[26]Note also that since the dP$_{RES.MOD}$ stays in situ, like PPs and RCs, the assumption is that the [RMOD]-feature on the restrictive modifier is valued on the little d of the modifier itself; i.e., the little d of the modifier bears an instance of an uninterpretable valued [RMOD]-feature.

(4.48)

$dP_{\text{RES.MOD}}$

d

[iCASE[GEN]]

dP

Adj
plavih 'blue'
[uCASE[GEN]]

d'

d

DP

N
očiju 'eyes'
[uCASEval[GEN]]

D'

D

Adj
plavih 'blue'
[uCASE[]]

There are three other ways in which restrictive modifiers can be expressed: as adjectives, PPs or RCs. Some dP$_{\text{RES.MOD}}$s can have all three as their counterparts. When they do, the case that the modifiers appear in reflects their structural position. If the restrictive modifier discussed above for instance surfaces as an adjective, (as in (4.49a)), the adjective receives a concordial case (accusative in the example below) with the restriction argument (the noun *devojka* 'girl') assigned by the verb which takes the dP as its argument. Similarly, if the restrictive modifier surfaces as a PP (as in (4.49b) below), the genitive case assigned by the little d is overridden by the P (instrumental, in the particular example below). If the restrictive modifier is an RC, it receives no case.

(4.49)   a) *Video   sam   [**plavooku**]   devojku.*
             seen   AUX   blue.eyed.**ACC**   girl.**ACC**
             'I saw a blue-eyed girl.'   (SERBIAN)

b) *Video sam devojku* [*s plavim očima*]
   seen   AUX girl.ACC with blue.**INST** eyes.**INST**
   'I saw a girl with blue eyes.'

Hence, the behavior of restrictive modifiers as far as their structural position and case are concerned falls out naturally under the proposal argued for here. The prepositional case, concordial adjectival case and genitive case all receive a principled account.

Lastly, it has been observed that there are two types of quantifiers in Serbian, but also in many other Slavic languages (see Franks (1998), Pereltsvaig (2007b), Bailyn (2012), i.a.): (a) agreeing and (b) non-agreeing. The former show an adjectival type of agreement with a noun whereas the latter have genitive case-marked complements (a so-called 'Genitive of Quantification'):

(4.50)   a) <u>AGREEING</u>

   mnoge   *knjige*
   many.F.PL.**NOM** book.F.PL.**NOM**
   'many books'   (SERBIAN)

   b) <u>NON-AGREEING</u>

   mnogo *knjiga*
   many   book.F.PL.**GEN**
   'many books'

To account for the source of genitive case in the latter type, many different proposals have been offered. For instance, Zlatić (1997) argues that these type of quantifiers are actually nouns, and that the noun assigns genitive case to its complement. Similarly, Franks (1994), Bošković (2006a) and Bošković (2008a) argue that these quantifiers head their own projection, QP, where the source of genitive is related to this projection.[27] In other words, the

---

[27]The assumption is that genitive is assigned either by Q or by F, which is argued to be an additional phrase (FP) placed between the QP and NP. (Bošković (2008a))

basic assumption is that there is a projection above NP which is the source of genitive. The proposal argued for in this paper does not need to postulate the existence of an additional projection to account for the relevant data. Since the little d assigns genitive case within dP, it follows that the complements of quantifiers get genitive case. The additional stipulation we need to make to is that dPs of some quantifiers (non-agreeing ones) are 'impenetrable' for the outside case assignment. Hence, their complements always surface in genitive. There is of course the inevitable question of why some quantifiers (non-agreeing) block the outside case assignment whereas the other ones do not (agreeing). I leave this question for future research.

4.5   Summary

In this chapter, I discussed a syntactic implication that has not yet received much attention in the literature regarding the structure of RCs in a DP-less language. If there is no DP in the nominal domain, RCs must be NP adjuncts. The lack of DP hence virtually eliminates three of the four classical analyses of RCs. The four analyses treat RCs as either DP/NP adjuncts or D complements. The absence of DP in a language leaves no other possibility than NP adjunction for RCs.

The arguments supporting the D-RC complementation view come from the observed selectional dependencies between the two elements: Ds and RCs. Crucially though, these types of dependencies have been observed in languages that uncontroversially project DP, such as English. Languages lacking DPs are wrongly predicted by the Parameterized DP-Hypothesis not to exhibit such dependencies. I discussed three arguments showing the relevant selectional dependencies, originally proposed for English, and showed how they extend to a DP-less language, Serbian.

The first observation is that there are selectional restrictions between English Ds and restrictiveness of RCs (Smith (1964)). Kordić (1995) observes that Croatian shows a similar

distribution while Runić (2006) extends this observation to Serbian. There are three types of determiners in both English and Serbian, and each one of those types allows a certain type of RC: (a) 'unspecified' determiners allow only restrictive RCs, (b) 'unique' determiners allow only non-restrictive RCs and (c) 'specified' determiners allow both restrictive and non-restrictive RCs. The fact that in both English and Serbian, determiners contribute to the interpretation of RCs as being restrictive and/or non-restrictive strongly suggests that there are selectional dependencies between the two elements: Ds and RCs. The adjunction approach to Serbian determiners and the lack of D category, as argued by the advocates of the Parameterized DP-Hypothesis, fail to track the observed dependencies.

The second argument for D-RC complementation view in English comes from Jackendoff's observation (Jackendoff (1977)) that English definite articles cannot co-occur with proper names alone but, if the proper name is accompanied with a modifier, the definite article is licit. Similarly, Serbian determiner *onaj* 'that' is shown to require a restrictive modifier when used non-deictically. In other words, there is a discontinuous dependency between the determiner and a restrictive modifier. Such a dependency again presents an inscrutable challenge for the Parameterized DP-Hypothesis: an adjunct (determiner) selects another adjunct (RC).

The third argument comes from Kuroda (1969) who observes that English abstract common nouns cannot co-occur with a bare definite article but, if there is a restrictive modifier, the definite article is licit. I showed above that there is a somewhat similar phenomenon in Serbian. Ivić (1964) notices that Serbian temporal adverbs can be expressed with a genitive case-marked noun, but only if a noun has a modifier. That is, the genitive case and the restrictive modifier seem to be implicitly related. I proposed that the genitive case-assigner is actually little d, a consequence of which is that there is a null D in the structure. Building on this assumption, I argued that the null D selects for an RC, on a par with the English definite article selecting for an RC. I also showed that Macedonian further illuminates the issue since the observed dependency between Serbian null D (associated with genitive case

of little d) and restrictive modification in some temporal adverbs surfaces as the dependency between the definite article and the restrictive modifier in Macedonian.

Based on these selectional dependency data I concluded that Serbian RCs cannot be analyzed as NP adjuncts, as predicted by the advocates of the Parameterized DP-Hypothesis. Serbian RCs behave like their English counterparts in relevant respects and such data can be tracked if the assumption is that Ds select RCs in both of these languages.

I adopted Larson's dP-shell structure to accommodate the data (Larson (1991), Larson (in press)). In this system, Ds are proposed to parallel in their behavior with Vs: they both possess argument structure and valence, and they both assign θ-roles, which are subject to a hierarchical ordering. Therefore, Ds can be intransitive, transitive and ditransitive and they can assign three θ-roles: Restriction [RES], Scope [SCP] and Nominal Oblique [NOBLIQUE]. Restrictive modifiers (adjectives, PPs and RCs) are argued to be optional arguments of D that get a [RMOD] θ-role. The observed selectional dependencies between Ds and RCs thus fall out naturally.

Finally, I argued that Serbian little d assigns genitive case to its arguments and that this case can be over-ridden if the dP itself gets case. Environments in which genitive surfaces are those in which there is no outside case-assigner, such as some temporal and manner adverbs, defective Ts: existential and $there_{\text{DEM}}$-constructions and 'buried' dPs: restrictive modifiers and some quantifiers. In all these environments, the lack of the outside case-assigner results in d arguments surfacing in genitive case. The data presented is somewhat idealized while some challenging data are left for future research.

Chapter 5

Conclusion

In this thesis, I discussed nominal structure in Serbian, focusing on the parametrization of the DP category. In particular, in §Chapter 1, I introduced two relevant issues/research questions: (a) the nature of DP projection in syntactic and semantic research and (b) the implications that the parameterization of DP has for both language acquisition and language structure. We saw that there is an incompatibility between the syntactic and semantic treatment of determiners, which concerns the semantic content of D: the former assumes that Ds lack semantic content (functional) whereas the latter assumes that they do not (lexical). This question directly relates to the issue of parametrization where only functional elements/categories can be parameterized. Larson's dP-shell proposal is adopted to settle this tension, which essentially argues that determiners take NPs as their complements (DP-Hypothesis) and that they do not lack descriptive content (i.e., they express relations between properties or concepts, Relational View of Determiners).

I also discussed the question pertaining to the acquisition of the DP category, which is argued to be specifically associated with the definite article in the most recent and mostly developed version of the Parameterized DP-Hypothesis (Bošković (2005) and his followers). The acquisition of the DP category hence solely depends on the presence of the privileged item among determiners, the definite article. Such a claim raises a few empirical concerns.

One of them is that the absence of the definite article in a language implies that a child acquiring it must go through a process of reanalysis and assignment of determiners to some category other than D. Second, the status of the definite article varies among languages: the implication seems to be that the definite article enables the DP projection only if definiteness is marked once within a nominal. That is, languages with polydefinite structures, such as Greek, are argued not to project DP. Such a proposal raises a question of the presence of the DP category among other polydefinite languages, such as Swedish, Norwegian, Faroese, among others, which are standardly argued to project DP. Furthermore, the cross linguistic implication that the Paramaterized DP-Hypothesis makes with respect to the definite article, as a privileged item enabling the DP projection, comes from languages that have article systems which differ from English. So for instance, North Frisian and Faroese have multiple lexical items that correspond to the English definite article while Futuna-Aniwa for instance has lexical items that correspond to both definite and indefinite articles in English. These cross-linguistic differences raise a question how universal DP parameter really is, as defined in the works of Bošković and his followers.

As far as language structure is concerned, the presence/absence of the DP projection has been argued by the proponents of the Parameterized DP-Hypothesis to have two implications: (a) determiners in DP-less languages are adjectives/adjective-like elements and/or NP-adjoined and (b) the lack of a DP projection has empirically verified syntactic implications. I examined the data offered to support (a) and (b) in §Chapters 2 and 4, showing that it is not persuasive.

Specifically, in §Chapter 2, I offered counterarguments to the adjectival view of determiners in DP-less languages. I first discussed properties generally claimed to be distinctive of the lexical category of adjectives (syntactic environments in which only adjectives are claimed to be able to appear) and tested Serbian determiners on them. The results showed that Serbian determiners largely do not share the claimed adjectival properties and that they in fact behave like English determiners (contradicting the prediction of the Parameterized DP-

Hypothesis). Then, I scrutinized the data offered by the proponents of the Parameterized DP-Hypothesis to argue for the adjectival status of Serbian determiners and showed that they are disputable, often lacking relevant paradigms, abundant in lexical variety and cross-linguistically not uniform as far as their implications of the adjectival status of the elements in question are concerned. These include morphological characteristics of determiners, their ability to be used as predicates in copular constructions, their ability to stack, a relatively free word order in which they can appear and the ban on modification of pre-nominal possessives. I showed that English and Serbian determiners do not diverge in their behavior and that Macedonian and Serbian determiners almost perfectly match in their behavior, contradicting the claims of the Parameterized DP-Hypothesis. Finally, I examined the argument built on binding data, which is provided to support the claim that Serbian determiners are NP-adjoined. I presented new binding data from Serbian, Macedonian and Bulgarian, which all show that the NP-adjunction analysis cannot track the observed binding potentials and call for further research of the phenomenon.

In §Chapter 3, I showed that two syntactic implications for extractability out of nominals (Left Branch Extraction and Adjunct Extraction) are built on incorrect cross-linguistic generalizations and as such require re-examination. Proponents of the Parameterized DP-Hypothesis claim that the differences in extractability from nominal domain amount to differences in nominal structure, i.e., languages without DP projections (i.e., languages without definite articles) may allow LBE and AE whereas languages with DP projections (i.e., languages with definite articles) do not. Based on such descriptive generalizations, a direct extraction analysis is proposed (Bošković (2005)) to track the cross-linguistic differences in extractability. I pointed out to severalI challenges/problems that such a proposal faces: definiteness/specificity effect, Condition on Extraction Domain and controversies regarding the data on Deep LBE, Deep AE and N-complement extraction from structurally and inherently case-marked NPs. I also provided new cross-linguistic data and data from five controlled acceptability judgment studies that show that the LBE and AE generalizations are empirically

incorrect and call for re-evaluation and further examination of the phenomena. Furthermore, I discussed some controversial data on LBE and AE phenomena in Slovenian, Russian and Polish. These data are presented as exemplar in the works of the Parameterized DP-Hypothesis proponents while exceptional in other works. Finally, I provided a preliminary analysis for LBE in Serbian, which builds on the proposal put forth by Pereltsvaig (2008). The basic mechanism argued for is movement of the whole phrase followed by a partial interpretation of the copies created by movement. I introduced two restrictions to further track the observed permissible word orders. Given the newly presented cross-linguistic data that challenge the LBE and AE generalizations, I left the question of cross-linguistic variation and AE phenomenon for future research.

Lastly, in §Chapter 4, I offered new arguments in favor of the Universal DP-Hypothesis, examining a key syntactic point that has received little attention in the literature, i.e., the absence of a DP projection virtually eliminates three of the four classical analyses of relative clauses, leaving an NP-adjunct analysis the only one available. This analysis is refuted by observing apparent selectional dependencies between D-elements and relative clauses. I showed that such arguments, offered to defend the D-RC view in languages that uncontroversially project DP, extend to Serbian, suggesting that there are DP projections in this language. To account for the selectional dependencies between Ds and RCs, I adopted Larsonian dP-shell and his Complex Determiner Analysis, which assumes that Ds take restrictive modifiers (RCs included) as their complements. The observed dependencies hence fall out naturally. I further discussed a preliminary proposal that Serbian d is a genitive case-assigner by investigating syntactic environments in which there is no dP case-assigner: some adjuncts, defective Ts and 'buried' DPs. The genitive case in these structures is immediately accounted for under the current proposal; however, some challenging data are detected and left for future research, both in Serbian and other languages.

Bibliography

Abels, Klaus. 2003. Successive cyclicity, anti-locality, and adposition stranding. Doctoral Dissertation, University of Connecticut.

Abney, Steven Paul. 1987. The English Noun Phrase in its sentential aspects. Doctoral Dissertation, MIT.

Alexiadou, Artemis. 2001. *Functional structure in nominals: nominalization and ergativity*. Amsterdam: John Benjamins.

Alexiadou, Artemis, Liliane Haegeman, and Melita Stavrou. 2007. *Noun phrase in the generative perspective*. Studies in generative grammar 71. Mouton de Gruyter.

Arsenijević, Boban, and Martina Gračanin-Yuksek. 2012. Patterns of agreement in Serbian/Croatian/Bosnian relative clauses. In *Proceedings of SINFONIJA 5*, 1–15.

van de Auwera, Johan, and Dubravko Kučanda. 1985. Pronoun or conjunction - the Serbo-Croatian invariant relativizer *što*. *Linguistics* 23:917–962.

Babby, Leonard. 1975. *A transformational grammar of russian adjectives*. The Hague: Mouton.

Babby, Leonard. 1987. Case, prequantifiers, and discontinous agreement in Russian. *Natural language and linguistic theory* 5:91–138.

Babyonyshev, Maria. 1997. The possessive construction in Russian: A crosslinguistic perspective. *Journal of Slavic Linguistics* 5:193–230.

Bach, Emmon, and Robin Cooper. 1978. The NP-S analysis of relative clauses compositional semantics. *Linguistics and Philosophy* 2:145–150.

Bach, Emmon, and George M. Horn. 1976. Remarks on 'Conditions on Transformations'. *Linguistic Inquiry* 7:265–99.

Bailyn, John Frederick. 1994. The syntax and semantics of Russian long and short adjectives: An X'-theoretic account. In *Annual Workshop on Formal Approaches to Slavic Linguistics*, ed. J. Toman, 1–30. Ann Arbor, MI: Michigan Slavic Publications.

Bailyn, John Frederick. 1995. A Configurational Approach to Russian'Free' Word Order. Doctoral Dissertation, Cornell University.

Bailyn, John Frederick. 2001. On scrambling: A reply to Bošković and Takahashi. *Linguistic Inquiry* 32:635–658.

Bailyn, John Frederick. 2012. *The syntax of Russian*. CUP.

Baker, Carl Lee. 1978. *Introduction to generative-transformational syntax*. Englewood Cliffs, NJ: Prentice-Hall.

Baker, Mark. 2003. *Lexical categories; verbs, nouns and adjectives*. Cambridge: CUP.

Barwise, Jon, and Robert Cooper. 1981. Generalized Quantifiers and Natural Language. *Linguistics and Philosophy* 4:159–219.

Bašić, Monika. 2004. Nominal Subextractions and the Structure of NPs in Serbian and English. Master's thesis, Universtétet i Tromsø.

Bašić, Monika. 2007. Left branch extractions: A remnant movement approach. In *Novi Sad Generative Syntax Workshop*, 39–51.

Bernstein, Judy B. 2001. The DP hypothesis: Identifying clausal properties in the nominal domain. In *The Handbook of Contemporary Syntactic Theory*, ed. M. Baltin and C. Collins, 536–561. Malden, Massachusets: Blackwell.

Boeckx, Cerdic. 2003. *Islands and chains: resumption as stranding*. Linguistik Aktuell. John Benjamins.

Borer, Hagit. 1983. *Parametric syntax: case studies in Semitic and Romance languages*. Dordrecht: Foris.

Borsley, Robert D., and Ewa Jaworska. 1988. A note on prepositions and Case marking in Polish. *Linguistic Inquiry* 19:685–691.

Bošković, Željko. 1994. D-structure, Theta-criterion, and movement into theta-positions. *Linguistic Analysis* 24:247–286.

Bošković, Željko. 1997. *The syntax of nonfinite complementation: An economy approach*. Cambridge, Massachusets: MIT Press.

Bošković, Željko. 2001. *On the nature of the syntax-phonology interface: cliticalization and related phenomena*. Elsevier.

Bošković, Željko. 2003. On Left Branch Extraction. In *Investigations into formal Slavic linguistics; contributions of the Fourth European Conference on Formal Description on Slavic Languages - FDSL 4*, 543–577.

Bošković, Željko. 2004. Topicalization, focalization, lexical insertion, and scrambling. *Linguistic Inquiry* 35:613–638.

Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59:1–45.

Bošković, Željko. 2006a. Case checking vs. case assignment and the case of adverbial NPs. *Linguistic Inquiry* 37:522–533.

Bošković, Željko. 2006b. Case of genitive of quantification in Russian. In *Agreement systems*, ed. Cedric Boeckx, 99–120. John Benjamins.

Bošković, Željko. 2007. On the locality and motivation of Move and Agree: An even more minimal theory. *Linguistic Inquiry* 38:589–644.

Bošković, Željko. 2008a. A minimalist account of genitive of quantification. In *Recent issues in formal Slavic linguistics. Contributions of the 5th European Conference on Formal Description of Slavic Languages*, ed. L. Szucsich et al., 270–287. Frankfurt am Main: Peter Lang.

Bošković, Željko. 2008b. What will you have, DP or NP? In *Proceedings of NELS 37*, ed. E. Elfner and M. Walkow, 101–114. Amherst.

Bošković, Željko. 2009a. More on the no-DP analysis of article-less languages. *Studia Linguistica* 63:187–203.

Bošković, Željko. 2009b. The NP / DP Analysis and Slovenian. In *Proceedings of the University of Novi Sad Workshop on Generative Syntax 1*, 53–73.

Bošković, Željko. 2009c. On relativization strategies and resumptive pronouns. *FDSL 7 Proceedings* 1–13.

Bošković, Željko. 2012a. On NPs and Clauses. In *Discourse and grammar: From sentence types to lexical categories*, ed. Günther Grewendorf and Thomas Ede Zimmermann, 179–242. De Gruyter.

Bošković, Željko. 2012b. Phases in NPs/DPs. In *Phases: Developing the framework*, ed. Ángel J. Gallego, 343–384. Berlin: Mouton de Gruyter.

Bošković, Željko. 2013. On the contextuality of locality. Handout from the Colloquium Talk at UMD, College Park.

Bošković, Željko. to appeara. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* .

Bošković, Željko. to appearb. Phases beyond clauses. In *Nominal Constructions in Slavic and Beyond*, ed. U. Etxeberria L. Schürcks, A. Giannakidou and P. Kosta. De Gruyter.

Bošković, Željko, and Daiko Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29:347–366.

Bowers, John. 1975. Adjectives and adverbs in English. *Foundations of Language* 13:529–562.

Bowers, John. 1987. Extended X-bar theory, the ECP, and the Left branch condition. In *Proceedings of WCCFL 6*, 47–62.

Bowers, John. 1991. The Syntax and Semantics of Nominals. In *Proceedings of SALT 1*, 1–30.

Brame, Michael. 1968. A new analysis of the relative clause: evidence for an interpretive theory. Unpunblished Manuscript, MIT.

Brame, Michael. 1982. The head-selector theory of lexical specifications and the nonexistence of coarse categories. *Linguistic Analysis* 10:321–325.

Breu, Walter. 2004. Der definite Artikel in der obersorbischen Umgangssprache. In *Slavistische Linguistik 2002: Referate des XXVIII. Konstanzer Slavistischen Arbeitstreffens*, ed. Marion Krause and Christian Sappok, volume 434, 9–57. München: Otto Sagner.

Browne, Wayles. 1974. On the problem of enclitic placement in Serbo-Croatian. In *Slavic transformational syntax*, ed. Richard D. Brecht and Catherine V. Chvany, volume 10, 36–52. University of Michigan: Michigan Slavic Materials.

Browne, Wayles. 1986. *Relative clauses in Serbo-Croatian in comparison with English*. Zagreb: Institute of Linguistics, University of Zagreb.

Browne, Wayles, and Theresa Alt. 2004. A handbook of Bosnian, Serbian and Croatian.

Browne, Wayles, and Anuška Nakić. 1975. Fixed word order in Serbo-Croatian. *Contrastive Analysis of English and Serbo-Croatian* 1:87–96.

Bruening, Benjamin. 2009. Selectional Asymmetries between CP and DP Suggest that the DP Hypothesis is Wrong. In *Proceedings of the 32nd Annual Penn Linguistics Colloquium PLC*, volume 15 of *University of Pennsylvania Working Papers in Linguistics*, 27–35.

Caruso, Đurđica Željka. 2011. Nominal Phrases in Croatian as DPs. In *Online Proceedings of GLOW in Asia Workshop for Young Scholars*, 16–30.

Chierchia, Guglielmo. 1998. Reference to Kinds Across Languages. *Natural Language Semantics* 6:339–405.

Chomsky, Noam. 1957. *Syntactic structures*. The Hague: Mouton and co.

Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, Massachusets: MIT Press.

Chomsky, Noam. 1970. Remarks on Nominalization. In *Readings in English Transformational Grammar*, ed. R. Jacobs and P. Rosenbaum, 184–221. Waltham, Mass.: Ginn and Co.

Chomsky, Noam. 1973. Conditions on transformations. In *A festschrift for Morris Halle*, 232–286. New York: Holt, Reinhart and Winston.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

Chomsky, Noam. 1986a. *Barriers*. Cambridge, Massachusets: MIT Press.

Chomsky, Noam. 1986b. *Knowledge of Language: Its Nature, Origins, and Use*. New York: Praeger Publishers.

Chomsky, Noam. 1988. Some notes on economy of derivation and representation. Ms. MIT, Cambridge, Mass.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Massachusets: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. M. Kenstowicz, 1–52. Cambridge, Massachusets: MIT Press.

Cinque, Guglielmo. 1994. On th evidence for partial N-movement in the Romance DP. In *Paths towards Universal Grammar: Studies in Honor of Richard S. Kayne*, ed. G. Cinque, J. Koster, J.-Y. Pollock, L. Rizzi, and R. Zanuttini, 85–110. Washington, DC: Georgetown University Press.

Cinque, Guglielmo. 1999. *Adverbs and functional heads*. Oxford: OUP.

Cinque, Guglielmo. 2005. *Comparative syntax*. Oxford: OUP.

Coene, Martine, and Yves D'hulst. 2003. Introduction: The syntax and semantics of noun phrases. In *From NP to DP: The syntax and semantics of noun phrases*, 1–34. John Benjamins.

Corbett, Greville G. 1987. The morphology/syntax interface: Evidence from possessive adjectives in Slavonic. *Language* 63:299–345.

Corver, Norbert. 1990. The Syntax of Left Branch Extraction. Doctoral Dissertation, Tilburg University.

Corver, Norbert. 1992. Left branch extraction. In *Proceedings of NELS 22*, 67–84.

Cowper, Elizabeth, and Daniel Currie Hall. 2010. Structures for possession in Upper Sorbian and Czech. In *Proceedings of the 2010 annual conference of the Canadian Linguistic Association*, 1–13.

Delsing, Lars-Olof. 1993. THe Internal Structure of Noun Phrases in The Scandinavian Languages. Doctoral Dissertation, University of Lund.

Demirdache, Hamida. 1991. Resumptive chains in restrictive relatives, appositives and dislocation structures. Doctoral Dissertation, MIT.

Despić, Miloje. 2009. On the structure of Serbo-Croatian NP - Evidence from binding. In *Proceedings of FASL 17*, 17–32. Yale University: Michigan Slavic Publications.

Despić, Miloje. 2011. Syntax in the Absence of Determiner Phrase. Doctoral Dissertation, University of Connecticut.

Despić, Miloje. 2013. Binding and the Structure of NP in Serbo-Croatian. *Linguistic Inquiry* 44:239–270.

Diesing, Molly. 1992. *Indefinites*. Number 20 in Linguistic Inquiry Monograph. Cambridge: MIT Press.

Dimitrova-Vulchanova, Mila, and Giuliana Giusti. 1996. Quantified noun phrase structure in Bulgarian. In *Formal Approaches to Slavic Linguistics 3*, ed. Jindřich Toman, 123–44. Michigan Slavic Publications.

Dimitrova-Vulchanova, Mila, and Olga Mišeska Tomić. 2009. The Structure of the Bulgarian and Macedonian Nominal Expression: Introduction. In *Investigations in the the Bulgarian and Macedonian Nominal Expression*, ed. Mila Dimitrova-Vulchanova and Olga Mišeska Tomić. Trondheim: Tapir Academic Press.

Đurić, Radmila. 2009. *Genitiv u engleskom i njegovi ekvivalenti u srpskom jeziku - generativni pristup*. Novi Sad: Udruženje za anglo-američke studije Srbije.

Dougherty, Ray C. 1983. Current views of Language and Grammar. In *THe Study of Information: Interdisciplinary Messages*, ed. Fritz Machlup and Una Mansfield. New York: John Wiley and Sons.

Dubinsky, Stanley, and Mila Tasseva-Kurktchieva. 2014. On the NP/DP language frontier: Bulgarian as a transitional case. talk given at LSA 2014.

Elouazizi, Noureddine, Chung hye Han, and Nancy Hedberg. 2013. On gaps and resumptives in Serbian relative clauses: an experimental study. abstract.

Emonds, Joseph. 1979. Appositive relatives have no properties. *Linguistic Inquiry* 10:211–43.

Emonds, Joseph. 1985. *A unified theory of syntactic categories*. Dordrecht: Foris.

Fanselow, Gisbert, and Damir Ćavar. 2002. Distributed deletion. In *Theoretical Approaches to Universals*, ed. A. Alexiadou, 65–107. Amsterdam: John Benjamins.

Fiengo, Robert, and James Higginbotham. 1981. Opacity in NP. *Linguistic Analysis* 7:395–422.

Franks, Steven. 1994. Parametric properties of numeral phrases in Slavic. *Natural language and linguistic theory* 12:570–649.

Franks, Steven. 1998. Clitics in Slavic. Paper presented at *Comparative Salvic Morphosyntax Workshop*, Indiana University, Bloomington.

Franks, Steven. 2002. A Jacobsonian feature based analysis of the Slavic numeric quantifier genitive. *Journal of Slavic Linguistics* 10:141–181.

Franks, Steven. 2006. Another look at *li* placement in Bulgarian. *The Linguistic Review* 23:161–210.

Franks, Steven, and Anita Peti-Stantić. 2006. Splitting Puzzles in South Slavic. FDSL 2006 abstract.

Franks, Steven, and Ljiljana Progovac. 1994. On the placement of Serbo-Croatian clitics. In *Indiana Slavic Studies 7, Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature and Folklore*, 69–78.

Fukui, Naoki. 1986. A Theory of Category Projection and its Applications. Doctoral Dissertation, MIT.

Fukui, Naoki. 1988. Deriving the differences between English and Japanese. *English Linguistics* 5:249–270.

Fukui, Naoki, and Margaret Speas. 1986. Specifiers and projection. In *MIT working papers in linguistics*, volume 8, 128–172. MIT Press.

Giusti, Giuliana. 1997. The categorical status of determiners. In *The New Comparative Syntax*, ed. Liliane Haegeman, 95–123. New York: Longman.

Goodluck, Helen, and Danijela Stojanović. 1996. The structure and acquisition of relative clauses in Serbo-Croatian. *Language Acquisition* 5:285–315.

Gračanin-Yuksek, Martina. 2008. Free relatives in Croatian: Arguments for the COMP account. *Linguistic inquiry* 39:275–294.

Gračanin-Yuksek, Martina. 2010. On a matching effect in headed relative clauses. In *Proceedings of FASL 18*, ed. Wayles Browne et al., 193–209. Ann Arbor: Michigan Slavic Publications.

Grimshaw, Jane. 1990. *Argument Structure*. Cambridge: MIT Press.

Halupka-Rešetar, Sabina. 2011. Rečenični fokus u engleskom i srpskom jeziku. Doctoral Dissertation, Filozofski fakultet, Univerzitet u Novom Sadu.

Heim, Irene. 2002. File change semantics and the familiarity theory of definiteness. In *Formal Semantics: The Essential Readings*, ed. Paul Portner and Barbara H. Partee, 223–248. Blackwell.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Blackwell.

Herdan, Simona. 2008. Degrees and amounts in relative clauses. Doctoral Dissertation, University of Connecticut.

Herdan, Simona. 2009. Relativization, intonational phrases and rich left peripheries. In *Proceedings of the 32nd Annual Penn Linguistics Colloquium PLC*, volume 15, 85–94.

Higginbotham, James. 1985. On Semantics. *Linguistic Inquiry* 16:547–593.

Hladnik, Marko. 2009. Doubling in Slovene dialects. Internship report. Manuscript, Meertens Instituut Amsterdam and Utrecht University.

Horn, George M. 1974. The Noun Phrase Constraints. Doctoral Dissertation, University of Massachusetts, Amherst.

Hornstein, Norbert. 1995. *Logical form: From GB to Minimalism*. Blackwell.

Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30:69–96.

Huang, James. 1982. Logical relations in Chinese and the theory of grammar. Doctoral Dissertation, MIT, Cambridge, Massachusets.

Huidobro, Susana. 2009. Datives as "concordial" case: evidence from Spanish and Galician. Ms. Stony Brook University.

Ishii, Toru. 1999. Cyclic spell-out and the that-trace effect. In *Proceedings of WCCFL 18*, ed. Sonya Bird et al., 220–231. Somerville, Massachusets: Cascadilla Press.

Ivić, Milka. 1964. Non-Omissible Determiners in Slavic Languages. In *Proceedings of the Ninth International Congress of Linguists*, 476–479. The Hague.

Ivšić, Kristina. 2008. The structure of Serbian nominal phrase. Master's thesis, University of Nova Gorica.

Jackendoff, Ray. 1977. *X-bar syntax*. Cambridge, Massachusets: MIT Press.

Jackson, Kyuseek Hwang. 2008. The effect of information structure on Korean scrambling. Doctoral Dissertation, University of Hawai'i.

Jacobs, Roderick A., and Peter S. Rosenbaum. 1968. *English Transformational Grammar*. Waltham, Mass.: Blaisdell.

Jeanne, LaVerne. 1978. Aspects of Hopi grammar. Doctoral Dissertation, MIT.

Julien, Marit. 2002. Determiners and word order in Scandinavian DPs. *Studia Linguistica* 56:265–315.

Julien, Marit. 2003. Double definiteness in Scandinavian. *Nordlyd* 31:230–244.

Jurka, Johannes. 2010. The importance of being a complement: CED-effects revisited. Doctoral Dissertation, University of Maryland, College Park.

Kaplan, David. 1977/1989. Demonstratives. In *Themes from Kaplan*, ed. J. Almong, J. Perry, and H. Wettstein, 481–563. Oxford: OUP.

Karimi, Simin, and Michael Brame. 1986. A generalization concerning EZAFE constructions in Persian. Paper presented at *Western Conference on Linguistics*, University of British Columbia.

Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, Massachusets: MIT Press.

King, Jeffrey C. 2001. *Complex demonstratives: A quantificational account*. Cambridge: MIT Press.

Kordić, Snežana. 1995. *Relativna rečenica*. Zagreb: Hrvatsko filološko društvo.

Kuroda, Sige-Yuki. 1969. English relativization and certain other related problems. In *Modern Studies in English: Readings in Transformational Grammar*, ed. D. Reibel and S. Schane. Englewood Cliffs, NJ: Prentice-Hall.

Lambova, Mariana. 2003. On information structure and clausal architecture: Evidence from Bulgarian. Doctoral Dissertation, University of Connecticut.

Larson, Richard K. 1988. On the Double Object Construction. *Linguistic Inquiry* 19:335–391.

Larson, Richard K. 1991. The projection of DP (and DegP). manuscript.

Larson, Richard K. 2004. The projection of DP. Handout of paper presented at the University of Stuttgart, Stuttgart, Germany.

Larson, Richard K. 2008. Modification in Nominals: Domains and Projection. Lecture notes from LOT Winterschool 14.

Larson, Richard K. forthcominga. General introduction. In *Essays on Shell Structure*. London: Routledge.

Larson, Richard K. forthcomingb. Nominal structure: Background. In *Essays on Shell Structure*. London: Routledge.

Larson, Richard K. in press. *On shell structure*. London: Routledge.

Larson, Richard K., and Sungeun Cho. 1999. Temporal adjectives and the structure of possessive DPs. In *Proceedings of WCCFL 18*, 299–311.

Larson, Richard K., and Franc Marušič. 2004. On indefinite pronoun structures with APs: Reply to Kishimoto. *Linguistic Inquiry* 35:268–287.

LaTerza, Chris. 2007. *The* definite article? manuscript at Stony Brook University.

Lees, Robert B. 1960. *The grammar of English nominalizations*. The Hague: Mouton and co.

Lekakou, Marika, and Krista Szendrói. 2008. Polydefinites in Greek: A close appositive analysis. Ms. Meertens Institute and UCLA.

Leko, Nedžad. 1999. Functional categories and the structure of DP in Bosnian. In *Topics in South Slavic Syntax and Semantics*, ed. M. Dimitrova-Vulchanova and L. Hellan, 229–252. John Benjamins.

Lukatela, Katarina. 1989. Sentence processing in fluent and nonfluent aphasia. Doctoral Dissertation, University of Connecticut.

Marušič, Franc, and Rok Žaucer. 2014. An Argument against Island Repair and Sluicing. Handout from the presentation at WCCFL 32.

Mathieu, Eric, and Ioanna Sitaridou. 2002. Split wh-constructions in Classical and Modern Greek. *Linguistics in Potsdam* 19:143–182.

McCawley, James David. 1982. Parentheticals and discontinuous constituent structure. *Linguistic inquiry* 13:91–106.

McGinnis, Martha. 1998. Reflexive external arguments and lethal ambiguity. In *Proceedings of WCCFL 16*, 303–317.

Milekić, Slavoljub, Željko Bošković, Stephen Crain, and Donald Shankweiler. 1995. Comprehension of non-lexical categories in agrammatism. *Journal of Psycholinguistic Reserach* 24:299–311.

Montague, Richard. 1974. English as a Formal Language. In *Formal Philosophy: Selected Papers of Richard Montague*, ed. R. H. Thomason, 188–226. New Haven: Yale University Press.

Mrazović, Pavica, and Zora Vukadinović. 1990. *Gramatika srpskohrvatskog jezika za strance*. Sremski Karlovci and Novi Sad: Izdavačka knjižarnica Zorana Stojanovića and Dobra vest.

Mykhaylyk, Roksolana. 2009. The role of semantic features in scrambling. In *Proceedings of the 10th Generative Approaches to Second Language Acquisition Conference*, ed. Melissa Bowles et al., 157–167. Somerville, Massachusets: Cascadilla Proceedings Project.

Ouhalla, Jamal. 1991. *Functional categories and parametric variation (points of conflict)*. Theoretical Linguistics. London: Routledge.

Panagiotidis, E. Phoevos, and Theodore Marinis. 2011. Determiner Spreadng as DP-Predication. *Studia Linguistica* 65:268–298.

Partee, Barbara, and Vladimir Borschev. 1998. Integrating lexical and formal semantics: Genitives, relational nouns, and type-shifting. In *Proceedings of the Second Tbilisi Symposium on Language, Logic and Computation*, ed. R. Cooper and T. Gamkrelidze, 229–241. Tbilisi: Center on Language, Logic and Speech, Tbilisi State University.

Pereltsvaig, Asya. 2007a. Split Phrases in Colloquial Russian: a Corpus study. In *Formal Approaches to Slavic Linguistics 15: the Toronto meeting*, ed. Magdalena Goledzinowska et al., 262–80. Ann Arbor, MI: Michigan Slavic Publications.

Pereltsvaig, Asya. 2007b. The universality of DP: A view from Russian. *Studia Linguistica* 61:59–94.

Pereltsvaig, Asya. 2008. Split Phrases in Colloquial Russian. *Studia Linguistica* Special Volume on Spoken Language 62:5–38.

Pereltsvaig, Asya. 2013. Noun Phrase Structure in Article-less Slavic Languages: DP or not DP? *Language and Linguistics Compass* 7:201–219.

Pesetsky, David. 2010. Russian case morphology and the syntactic categories. Ms. MIT.

Pesetsky, David, and Danny Fox. 2005. Cyclic Linearization of Sytnactic Structure. *Theoretical Linguistics* 31:1–46.

Pesetsky, David, and Esther Torrego. 2004. Tense, case, and the nature of syntactic categories. In *The syntax of time*, ed. J. Gueron and J.Lecarme, 493–544. MIT Press.

Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20:365–424.

Progovac, Ljiljana. 1998. Determiner phrase in a language without determiners. *Journal of Linguistics* 34:165–179.

Rappaport, Gilbert. 2001. Extraction from Nominal Phrases in Polish and the Theory of Determiners. *Journal of Slavic Linguistics* 8.

Ritter, Elizabeth. 1991. Two functional heads in noun phrases: evidence from Modern Hebrew. In *Syntax and Semantics*, ed. Susan Rothstein, volume 25, 37–62. San Diego: Academic Press.

Rizzi, Luigi. 1997. The fine structure of the Left Periphery. In *Elements of Grammar*, ed. Liliane Haegeman, 281–337. Dordrecht: Kluwer Academic Publishers.

Rodríguez-Mondoñedo, Miguel. 2007. The syntax of objects: Agree and differential object marking. Doctoral Dissertation, University of Connecticut.

Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT.

Runić, Jelena. 2006. On the syntax of determiners in Serbian and Romanian. *Filološki pregled* 33:75–93.

Runić, Marija. 2013. The definite article in an articleless language. Handout from the presentation at FDSL 10.

Russell, Bertrand. 1905. On denoting. *Mind* 14:479–493.

Safir, Ken. 1987. Comments on Wexler and Manzini. In *Parameter Setting*, ed. Thomas Roeper and Edwin Williams, 77–89. Dordrecht: Reidel.

Saito, Mamoru, and Keiko Murasugi. 1999. Subject predication with IP and DP. In *Beyond Principles and Parameters*, ed. Kyle Johnson and Ian Roberts, 167–188. Dordrecht.

Schoorlemmer, Erik. 2012. Genitive noun complements in Serbo-Croatian: extraction and case. Handout from the presentation at FASL 21.

Schwarz, Florian. 2009. Two Types of Definites in Natural Language. Doctoral Dissertation, University of Massachusetts, Amherst.

Sekerina, Irina. 1997. The syntax and processing of scrambling constructions in Russian. Doctoral Dissertation, CUNY.

Shlonsky, Ur. 1991. Quantifiers as Functional Heads: A Study of Quantifier Float in Hebrew. *Lingua* 84:159–180.

Smith, Carlota S. 1964. Determiners and relative clauses in a generative grammar of English. *Language* 40:37–52.

Smith, Stanley D., and Ivo Mimica. 1984. Agrammatism in a case-inflected language: comprehension of agent-object relations. *Brain and Language* 21:274–290.

Snyder, William. 2001. On the nature of syntactic variation: Evidence from complex predicates and complex word-formation. *Language* 77:324–342.

Stanković, Branimir. 2013. DP or NP? The case of Serbian Southeastern dialects and Macedonian language. presented at the SinFonIJa 6, University of Niš.

Stanković, Branimir. in press. Arguments for DP-Analyses of SC Nominal Expressions. In *The Noun Phrase Structure*, ed. Ludmila Veselovská. Czech Republic: Olomouc.

Stepanov, Arthur. 2007. The end of the CED? Minimalism and extraction domains. *Syntax* 10:80–126.

Stjepanović, Sandra. 1996. Is inherent case structural? In *Proceedings of FASL 5*, 295–311. Michigan Slavic Publications.

Stjepanović, Sandra. 1998. Extraction of adjuncts out of NPs. Paper presented at the workshop *Comparative Slavic Morphosyntax: 'The State of the Art'*, Spencer, Indiana.

Stjepanović, Sandra. 2013. Left branch extraction and the coordinate structure constraint. Handout from the presentation at NELS.

Stockwell, Robert P., Paul Schachter, and Barbara Partee. 1973. *The major syntactic structures of English*. New York: Reinhart and Winston.

Stojanović, Danijela. 1999. Parsing and acquisition: Evidence from Serbo-Croatian. Doctoral Dissertation, University of Ottawa.

Stojanović, Danijela, Helen Goodluck, Darinka Andjelković, and Maja Savić. to appear. Object relatives can ease processing load. In *Proceedings of FASL 21*. Michigan Slavic Publications.

Stowell, Timothy. 1989. Subjects, specifiers, and X-bar theory. In *Alternative conceptions of phrase structure*, ed. Mark Baltin and Anthony Kroch, 232–262. Chicago: University of Chicago Press.

Szabolcsi, Anna. 1983. The possessor that ran away from hone. *The Linguistic Review* 3:89–102.

Szabolcsi, Anna. 1987. Functional Categories in the Noun Phrase. In *Approacheds to Hungarian: Theories and Analyses*, ed. I. Kenesei, 167–90. Jate Szeged.

Takahashi, Masahiko. in press. Case-valuation, phasehood, and nominative/accusative conversion in Japanese. In *Proceedings of 39th Conference of the North-Eastern Linguistic Society*. Amherst: GLSA.

Talić, Aida. 2013. Extraordinary Complement Extraction. Handout from the presentation at LSALAA 2013.

Trenkić, Danijela. 2004. Definiteness in Serbian/Croatian/Bosnian and some implications for the general structure of the nominal phrase. *Lingua* 114:1401–1427.

Uriagereka, Juan. 1988. On government. Doctoral Dissertation, University of Connecticut.

Vergnaud, Jean-Roger. 1974. French relative clauses. Doctoral Dissertation, MIT, Cambridge, Massachusets.

Wasow, Thomas. 1972. Anaphoric relations in English. Doctoral Dissertation, MIT.

Watanabe, Akira. 2006. Functional projections of nominals in Japanese: Syntax of classifiers. *Natural language and linguistic theory* 24:241–306.

Wexler, Kenneth, and M. Rita Manzini. 1987. Parameters and learnability in binding theory. In *Parameter Setting*, 41–76. D. Reidel.

Yadroff, Michael. 1999. Formal properties of functional categories: The minimalist syntax of Russian nominal and prepositional expressions. Doctoral Dissertation, Indiana University.

Zec, Draga, and Sharon Inkelas. 1991. The place of clitics in the prosody hierarchy. In *Proceedings of WCCFL 10*, ed. Dawn Bates, 505–519. Stanford, California: CSLI Publications.

Zlatić, Larisa. 1994. An asymmetry in extraction from noun phrases in Serbian. In *Indiana Linguistic Studies*, volume 7, 207–216. Bloomington: Indiana University Linguistic Club.

Zlatić, Larisa. 1997. The structure of the Serbian Noun Phrase. Doctoral Dissertation, The University of Texas at Austin.

Zlatić, Larisa. 1998. Slavic Noun Phrases are NPs not DPs. presented at the Workshop on Comparative Slavic Morphosyntax, Bloomington, Indiana.