8-24-2016

On the Presence/Absence of TP: Syntactic Properties and Temporal Interpretation

Neda Todorovic
University of Connecticut - Storrs, neda.todorovic@uconn.edu

On the Presence/Absence of TP: Syntactic Properties and Temporal Interpretation

Neda Todorović, Ph. D.

University of Connecticut, 2016

This dissertation investigates syntactic and semantic properties of the aspectual-temporal domain, arguing that TP is not universal.

Chapter 1 assumes a cross-linguistic structural difference in the nominal domain with DP projected only in languages with overt articles, and explores the idea that the difference has a clausal parallel, with TP being the correlate of DP. By postulating a link in terms of morphological realization of projections, I propose TP is projected only in languages with overt temporal morphology; languages without it lack TP. Correlating the presence of DP and TP provides the right split regarding finiteness mismatches in VP-ellipsis (Chapter 2) and aspectual tenses (Chapter 4).

Chapter 2 examines VP-ellipsis under finiteness mismatches between the elided and antecedent VP. I show languages differ in its availability, arguing that the explanation here lies in the presence/absence of the TP-layer: only no-TP languages allow finiteness mismatches. In TP-languages, the lack of identity in the T-feature in such cases violates the feature-identity requirement for ellipsis.

Chapter 3 discusses VP-ellipsis under aspectual mismatches in Serbian, showing that VP-ellipsis is restricted by aspect, not finiteness, thus supporting the claim from Chapter 2 that Serbian is a no-TP language. This Chapter also provides new insights regarding the phasal partitioning of clauses and proposes a phase-based parallelism requirement on ellipsis.

Chapter 4 investigates the semantic consequences of the presence/absence of TP. I show that, in the absence of TP, temporal interpretation can be derived by aspectual and modal components. Furthermore, the no-TP analysis accounts for various non-deictic temporal interpretations, as shown for Serbian. This Chapter also demonstrates that Serbian and Bulgarian differ regarding aspectual tenses, arguing that the difference stems from the presence of TP in Bulgarian, and its absence in Serbian. Chapters 4-5 explore semantic distribution of various verbal forms; I show that these forms are often misclassified, calling for their re-examination.

By examining verbal morphology of a number languages, Chapter 5 establishes a correlation between temporal morphology and the presence/absence of TP in a language, which is then postulated as the main criterion in establishing the TP/no-TP language distinction: languages without temporal morphology lack TP.

On the Presence/Absence of TP: Syntactic Properties and Temporal Interpretation

Neda Todorović

B.A., University of Novi Sad, 2009

M.A., University of Connecticut, 2013

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

at the

University of Connecticut

2016

APPROVAL PAGE

Doctor of Philosophy Dissertation

On the Presence/Absence of TP:

Syntactic Properties and Temporal Interpretations

Presented by Neda Todorović, B.A., M.A.

Major Advisor_____

Željko Bošković

Associate Advisor_____

Jonathan Bobaljik

Associate Advisor_____

Susanne Wurmbrand

Associate Advisor_____

Stefan Kaufmann

University of Connecticut

2016

ACKNOWLEDGEMENTS

When reading about Aspect, one inevitably runs into the term *accomplishment,* which roughly refers to an event which lasts for a certain period of time until it reaches the point at which the result is obtained. In order to accomplish this dissertation, I gained support from an entire army of people. The following few lines are just a modest homage for all that they have done for me in the last couple of years.

First of all, I would like to thank my Dissertation Committee. Željko Bošković has been an extraordinary advisor. The speed with which he works with you, thinks about your work, comments on every little detail, provides an angle you've never thought of before – it exceeds existing speed measures. Hence, coping with my perception of time (I speak a tenseless language after all) was not even challenging for him. But, he also managed to slow down every time I needed to talk about a great number of life-related ideas and concerns. Hvala Vam na svemu od srca! I would also like to thank Susi Wurmbrand for reminding me that the perception of time in language is the topic I like most, for working with me, and also for teaching me that a well-argumented discussion knocks down even beasts like Tense and Aspect. Thank you for teaching me how to grow linguistically. But more than that, thank you for always believing in me and for being my friend. Let's Deutsch! I would also like to thank Jonathan Bobaljik for being the greatest devil's advocate I've ever met. He helped me sharpen my arguments in ways I would probably never think of myself. Thank you for your patience which, I can safely say it, helps us all become a better researcher. Hvala puno! Stefan Kaufmann was there to show me that anyone can do such a scary thing as Semantics as long as they have a chance to meet a patient, inventive, thorough professor who can create a convincing argument out of something that starts out as

even less than a half-baked idea. Vielen Dank, Stefan!

I would also like to thank other members of the Uconn Linguistics Department, for their perpetual willingness to help me both with research and teaching-related concerns. Andrea Calabrese, Jon Gajewski and Magdalena Kaufmann provided thorough comments on various parts of this dissertation. Harry van der Hulst, Diane Lillo-Martin, Jon Sprouse and William Snyder inspired me to become a better teacher. Special thanks goes to Catalina Ritton and Tamara Cohen, who were extremely patient with me and who put so much effort into making all the administrative tasks less cumbersome.

Risking unintentionally forgetting to mention someone, I would like to thank a number of people who made valuable contribution to this thesis in various forms of discussions. I am grateful to Dorit Abusch, Boban Arsenijević, Sigrid Beck, Wayles Browne, Seth Cable, Cleo Condoravdi, Vera Gribanova, Uwe Jürgensen, Jim McCloskey, Jason Merchant, Krzysztof Migdalski, Ljiljana Progovac, Carson Schütze, Lisa Travis and Hedde Zeijlstra, among many others.

Obtaining data from a variety of languages in this dissertation was made possible by my consultants: Ksenia Bogomolets, Marcin Dadan, Cynthia L. Z. DeRoma, Anita Hansen, Anikó Kovács, Krzysztof Migdalski, Petra Mišmaš, Renato Lacerda, Vanessa Petroj and Vesela Simeonova. Thank you very much!

My passion for linguistics would never exist if it were not for my professors in Serbia: Spasenija Roganović, who taught me that the grammar of Serbian is full of hidden gems, Ljiljana Marić, who taught me that linguistics is science and Nataša Kenji who taught me that the grammar of English is so much fun. Tanja Milićev opened Pandora's box of Syntax for me, and

her help was crucial in me reaching this stage. Hvala Vam od srca!

Going to graduate school would never be such an unforgettable experience without quite a few people. Vanessa Petroj is someone who has always been there for me, until the very end of this process. Her enthusiasm, kindness and amazing sense of humor kept me in a great mood during the entire process of writing. A hvala, Vanessa (c, Nead!)! Miloje Despić has been my unofficial advisor and my older brother at Uconn. On top of being an extraordinary friend, Miloje would dedicate hours to discussions of linguistic puzzles, and much of this dissertation was inspired by those conversations. Hvala, Prijatelju (Srdačan pozdrav, Nadežda)! Beata Moskal was there to listen to my countless proposals of one and the same idea, to synchronize generals and dissertation writing with me, and to make this whole process so much fun. Endless hours of talking about all sorts of topics one can ever imagine, made years at Uconn a collection of anecdotes (you'd almost closed the living room door, Moskal). Au revoir, Shosanna (but not really)! Jungmin Kang has been like my older sister, taking care of everything that can possibly go wrong, because that smile of hers can solve it all. Thank you, dear JM! Aida Talić is someone who was persistently, but unintrusively there for me. In endless discussions, coffee hours and road trips, she made sure that our Slavic block was invincible. Nilufer and Serkan Şener are my Turkish family and for how much they helped me, I think I can never thank them enough. Teşekkürler, dear friends! Renato Lacerda's and Gísli Rúnar Harðarson's calmness were exceptionally soothing during the process of dissertation writing and their jokes made even the most ordinary discussions moments worth remembering. Dear Yoshi, your brilliance inspired me so much. I wish you were here.

I would like to thank other student from the Department with whom I overlapped over the years at Uconn and who made those years enjoyable: Akihiko Arano, Ana Bastos-Gee, Mary

Beriša, Karina Bertolino, Pietro Cerrone, Hsu-Te Cheng, Winnie Cheung, Jean Crawford, Marcin Dadan, Cynthia L. Z. DeRoma, Paula Fenger, Natalia Fitzgibbons, Corina Goodwin, Zhanna Glushan, Ryosuke Hattori, I-ta Hsieh, Elena Koulidobrova, Pavel Koval, Yu-Ruei Liou, Gabriel Martínez Vera, Irina Monich, Troy Mesick, José Riqueros Morantes, Hiromune Oda, Koichi Ohtaki, Nina Radkevich, Jelena Runić, Hiroaki Saito, Yuta Sakamoto, Tsuyoshi Sawada, Koji Shimamura, Peter Smith, Laura Snider, Masahiko Takahashi, Oksana Tarasenkova, Yuta Tatsumi, Alexandre Vaxman, Julio Villa-Garcia and Ting Xu.

Safet Beriša, Ksenia Bogomolets, Christos Christopoulos, Paula Fenger, Emma Nguyen, Sabine Laszakovits, Jayeon Park, Roberto Petrosino (spoiler alert: Strašno!), Zheng Shen, Adrian Stegovec, Abigail Thornton, Lyn Tieu and Yongsuk Yoo made sure that our little Uconn community gatherings were always filled with outbursts of laughter.

Finally, life in the US was so much smoother because of Predrag Predin's and Dunja Veselinović's help. I am so lucky that my lifetime friend is somehow always where I am. Hvala velika, Peteru! And Dunja is just one big heart and sharpest mind. Fala, Duroše!

Working far away from home would have been (so much) more challenging if it were not for my friends who made sure that I did not lose the ground beneath my feet over the years. With open arms, they made sure *da* kada odem na Zapad, da se setim Istoka (D. Stojšić, 2009). Milana Babić was there through thick and thin, per usual. Endless talking with Dragana Ćorić kept my spirit live. Dijana Vilić, my ideal study and travel buddy, was unintrusively always nearby, even when thousand miles away (www!). Dunja Stojšić, my BanaCka sestra, kept the Koleginica open heart and humor at a high level all the time. Nina Stojšić was there to cheer me up, even across two ponds (Cimetu!). Darko i Olja Mihajlović, even across more than two ponds (jer, šta su

kilometri). My Grandma Marija was always there to wait for me with new stories and a big smile. Hvala ti na svemu, Bakuta draga! Siniša Todorović, Gordana Vulović, Milan and Ljerka Ćirić would always make sure I was doing just fine. And Petra Mišmaš would always fill our linguistic life with outbursts of laughter (u Hajduk Veljkoga!).

Finally, my biggest gratitude goes to my parents, Danica i Vladimir, and to my brother Uroš. Without their unconditional support, I would never have accomplished writing these lines. I am not sure I would ever be able to thank them enough. Hvala vam što ste me naučili da u životu ima tek malo toga što je nedostižno. I dedicate this dissertation to them.

TABLE OF CONTENTS:

CHAPTER 1: INTRODUCTION

It is a matter of an ongoing debate whether Tense is a universally projected category, i.e. whether it is present in every language. Languages that have temporal morphology are standardly assumed to have TP; the question then arises for languages that do not have temporal morphology. This question has been raised due to the syntactic and semantic properties that languages lacking overt temporal morphology observe. Namely, in a number of such languages,[1] there is evidence for the absence of certain syntactic properties standardly associated with the presence of TP in the structure, e.g. the absence of morphological structural case in Halkomelem Salish (Wiltschko 2003), the absence of certain subject-object asymmetries is Serbian and Korean (Bošković 2012), the locality domains for binding and movement have also been argued to be different in such languages, e.g. Korean (Bošković 2012, Kang 2014, Despić 2015). Regarding semantic properties, languages which lack overt temporal morphology, e.g. Russian, Polish, Czech, Serbian, Korean, as noted in Bošković (2012), also seem to lack Sequence of Tense effects, seemingly complementary "Tense" markers (past-oriented and non-past) can co-occur in a clause (Halkomelem Salish (Wiltschko 2003), Japanese (Sawada 2015)), or temporal reference is constrained by context and temporal adverbials (Guaraní (Tonhauser 2011), Chinese (Lin 2006)).

The idea of the correlation between the absence of temporal morphology and the absence of TP has been advocated by some authors for some individual languages, such as Yukatek Maya

[1] See Chapter 5 and the references cited below for demonstration that the languages about to be mentioned do not have real temporal morphology.

(Bohnemeyer 2002), Chinese (Lin 2003, 2006), Halkomelem Salish (Wiltschko 2003),[2] Paraguayan Guaraní (Tonhauser 2011), Slovene, Czech, Slovak, Polish, Serbian (Migdalski 2013), Russian (Jung & Migdalski 2014), Hausa (Mucha 2013), Turkish (Zanon 2014), Korean (Kang 2014); cf. Matthewson 2006 for Lillooet Salish; see also Bošković 2012 for a broader cross-linguistic claim (see also Ritter and Wiltschko 2014). Importantly, since all these studies deal with only individual languages or smaller groups of related languages, the claims that these authors make regarding the presence or absence of TP are confined to those languages without broader cross-linguistic predictions, i.e. none of these authors give an analysis that would make a prediction for any given language regarding whether it will, or will not, have TP.[3]

I will argue that the claim that TP does not need to be universally projected is indeed true, and that various syntactic properties and temporal interpretations of genetically unrelated languages can be accounted for if we assume cross-linguistic differences in the presence or absence of TP. While establishing such a variation in the clausal domain in the observed languages is already a demanding project in its own right, a bigger challenge is to make predictions for each language whether it should be classified as a TP or a no-TP language. Languages with temporal morphology project TP, hence TP can in principle be lacking only in languages without temporal morphology. The question that arises is whether the absence of TP holds for all of them and if not, can we predict in which languages it would hold. It is the aim of this dissertation to establish the relevant criteria for determining the structural configuration of any language regarding the presence or absence of TP.

[2] In Halkomelem Salish, temporal morphology is present in the nominal domain, but not in the verbal domain, according to Wiltschko (2003), which she takes as an indication for the absence of TP in the language (Wiltschko argues that a number of TP-related syntactic diagnostics fail in Halkomelem Salish; but see Matthewson 2005 for a different perspective).

[3] Bošković (2012) is an exception here. However, this work still does not provide a detailed cross-linguistic examination of the syntactic and semantic consequences of the claim regarding the TP/no-TP languages distinction.

The point of departure in the dissertation will be a parallelism between the nominal and the clausal domain in terms of necessity and motivation for projecting certain portions of the structure. To be more specific, it has been argued that the category DP is not universally present in the structure. A number of authors make this claim for individual languages, while Bošković (2008, 2012) makes a general claim that DP can be projected in a language only if definite articles are morphologically realized in the language − languages without overt definite articles are to be classified as NP languages (for individual languages, see Corver 1992, Zlatić 1997, Fukui 1998, Chierchia 1998, Cheng and Sybesma 1999, Lyons 1999, Willim 2000, Baker 2003, Trenkić 2004, Marelj 2008, 2011, Despić 2011, 2013, Runić 2014a,b , M. Takahashi 2012, Talić 2013, 2015, *i.a.*). Bošković observes that article and article-less languages systematically differ regarding a number of syntactic and semantic phenomena, e.g. extraction out of NPs, superiority effects, freedom of word order, the type of clitic systems, the presence of classifier systems, negative raising and the interpretation of superlatives, and argues that these differences can be captured if languages without articles lack DP. The merits of such a two-way cross-linguistic split between NP and DP languages is a unified explanation in those terms for a number of syntactic and semantic phenomena in genetically unrelated languages. Furthermore, a question then arises whether such a division can be correlated with the structural configuration in the clausal domain. Bošković (2012) suggests it can be. Assuming a parallelism across domains, he suggests that the clausal counterpart of DP is TP. He then proposes that in languages that lack a DP, TP is also absent. The evidence for this claim stems from the lack of a number of TP-related properties in article-less languages, such as Sequence of Tense, expletives, certain subject-object asymmetries (there is also a correlation between the type of clitization and the Tense loss in Slavic languages, see Migdalski 2013).

I will take the correlation between the presence of DP and the presence of TP in a language as a point of departure because it provides the right split with respect to the clausal phenomena discussed in Chapters 2 and 4. More specifically, in Chapter 2, I discuss the availability of finiteness mismatches under VP-ellipsis, and in Chapter 4, I discuss the availability of aspectual specifications under so-called aspectual tenses, i.e. Aorist and Imperfectum; I show that languages split into two groups regarding these seemingly unrelated clausal phenomena, and argue that what determines the split is the presence/absence of Tense. Importantly, this split matches the split between NP and DP languages; all languages that disallow finiteness mismatches under VP-ellipsis, which I argue is due to the presence of Tense, are DP languages, while those that allow it are NP languages. In addition, aspectual tenses are aspectually unconstrained, which I argue is due to the presence of Tense, in e.g. Bulgarian, a DP language, while they are aspectually constrained in e.g. Serbian, an NP language. This then provides support for a parallelism between the two domains.

Now, another way to draw a parallelism between the two domains, in particular, between the presence of DP and the presence of TP in a language (which has been hinted at above), is to postulate a more abstract link in terms of morphological realization of these projections. To be more specific, Bošković (2008, 2012) argues that the absence of morphological realization of definite articles in a language correlates with structural deficiency within the nominal domain, in particular, it is the reflex of the absence of DP. In a similar manner, I will explore the idea that the absence of temporal morphology in a language is also a reflex of a structural deficiency, in particular, that it indicates that TP is absent from the structure. In Chapter 5, I explore the idea that languages without temporal morphology also lack TP. In particular, Chapter 5 reveals some surprising facts like the absence of true temporal morphology in languages which otherwise have

very rich verbal morphology, such as Serbian.[4] I argue that this lack of temporal morphology in Serbian correlates with the absence of Tense in the language. Note that Serbian is also an NP language (i.e. a language without articles), so its no-TP status holds on the basis of both criteria, i.e. structural parallelism across domains and morphological grounding. I will extend this overall approach to a number of other languages.

Given the morphological grounding of the differences in question, one could ask why morphology in these two domains would be indicative of structural configurations. One relevant area is language acquisition. In particular, the question that arises is one of learnability, i.e. how does a child determine whether she is acquiring an NP or a DP language, and the same question arises regarding the TP/no-TP distinction. Consider the issue with respect to the NP/DP distinction. If we consider the generalizations that differentiate NP and DP languages (which were briefly mentioned above), they are either too complex, or involve phenomena that are not present in many languages, hence they cannot serve as language acquisition triggers for the distinction in question. Consider, on the other hand, morphological triggers. Koulidobrova (2015) discusses emergence of elements in the nominal domain in language acquisition and discusses how her findings fare with respect to the parametrized approach to the presence of DP. She observes that D-like elements in English all emerge at the same time and coincide with the emergence of the definite article, which provides support for them being linked (Snyder 2007), i.e. all occupying the DP projection. Following Bošković (2010), she also suggests that, assuming the NP/DP-parameter, it is plausible that children learning a DP language would wait for positive evidence for the presence of DP, namely, the definite article, and when they find it, they are able to produce various DP-structures at the same time. Crucially, if particular

[4] In Chapter 5, I provide a detailed discussion of the morphological make-up of verbal forms in Serbian, showing that there is aspectual and agreement morphology, but crucially no temporal morphology in the language.

morphological trigger is sufficient for the child to deduce the relevant syntactic structure, then not hearing it also has certain consequences (Koulidobrova demonstrates that in Russian, which lacks a definite article (hence is an NP language), there is a lack of clustering of certain elements, such as demonstratives and pronouns). In light of such concerns, Bošković (2010, 2016a) suggests that the definite article is in fact the trigger for acquiring the NP/DP language distinction − in the absence of the definite article, DP is assumed not to be projected in a language − which then explains the morphological grounding of the distinction.

The TP/no-TP distinction can be approached in the same way. As with the NP/DP languages distinction, the phenomena discussed in this dissertation that split languages into TP and no-TP languages, such as finiteness mismatches under VP-ellipsis or the distribution of aspect with aspectual tenses, are way too sophisticated and/or rare to serve as triggers for acquiring the TP/no-TP language distinction. Instead, what matters is morphology: TP is assumed to be projected in the presence of temporal morphology. In the absence of temporal morphology, TP is then not projected.

In what follows, I assume a parallelism between the two domains, namely, that DP languages are also TP languages, providing further support for it in Chapter 2 and Chapter 4 in the discussion of clausal syntactic phenomena which are crucially affected by the presence of Tense, and which also match the split in terms of the presence/absence of DP. However, I return to the correlation between temporal morphology and the presence of TP in Chapter 5, in order to show that in no-TP languages, there is no temporal morphology. This will then be the main criterion in establishing the TP/no-TP language distinction: languages without temporal morphology lack TP. In the course of the discussion, we will see that there is often incorrect classification in the literature of certain morphology as temporal, due to what appear to be subtle differences between

temporal and aspectual morphology. In this dissertation, Tense is taken to crucially be a deictic category (along the lines of Klein 1994, *i.a.*), i.e. to relate the reference time interval with respect to which the event time is ordered to the Utterance Time (in matrix clauses). Anchoring to the Utterance Time is, however, not the property of Aspect. Unlike Tense, Aspect is taken to characterize the internal temporal structure of the event, i.e. Aspect, in particular viewpoint aspect, is concerned with viewing the situation as bounded or unbounded at a particular reference time interval. This reference time interval is then indirectly related to the Utterance Time by the means of Tense. In Chapter 4 and Chapter 5, I apply the relevant semantic diagnostics to distinguish between Tense and Aspect in a language, and, in Chapter 5, I use these diagnostics to determine which verbal morphology is indeed temporal in nature, arguing also that languages that lack such morphology also lack TP.

Regarding the syntactic properties for which the presence/absence of Tense is relevant, in Chapter 2 I discuss the cross-linguistic availability of VP-ellipsis under finiteness mismatches between the elided VP and the antecedent VP. I show that languages differ in the availability of such ellipsis, arguing that a systematic explanation for the mismatches can be provided by resorting to a parametric variation with respect to the presence vs. absence of the TP-layer:[5] only no-TP languages allow finiteness mismatches in VP-ellipsis; TP languages do not allow such mismatches – the intolerance to mismatches will be argued to stem from the lack of identity in terms of the T feature in TP languages, thus violating the feature identity requirement for ellipsis. Regarding the term finiteness, I will use it for ease of exposition, since labels 'finite' and 'non-finite' have traditionally been used with verbal forms. To illustrate, in German, present and past forms are classified as finite forms, whereas infinitival and participial forms are classified as

[5] Although I am using the term 'parametric', we may actually be dealing with a lexical difference here. In other words, I use the term 'parametric' for ease of exposition.

non-finite. In Serbian, morphological present and Aorist have traditionally been considered as finite, whereas participles and infinitives have been considered as non-finite forms. However, in Chapter 2, I will show that this traditional opposition breaks down easily, e.g. the division between morphological present and Aorist on one hand and participles and infinitives on the other hand in Serbian is wrong and cannot be maintained. Thus, the reader should bear in mind that the term finiteness is used for all languages throughout the dissertation for ease of exposition, following traditional labels, but that it will be shown that the traditional distinction between finite and non-finite forms cannot be maintained for a number of languages, in fact precisely for the languages that are claimed in this dissertation not to have TP.

Moving on to Chapter 3, Chapter 3 also discusses the availability of VP-ellipsis, with the difference that this Chapter focuses on the role of aspect in it. First, it should be noted that, in terms of semantic contribution, the literature differentiates between two types of aspect: 1) lexical, situation aspect or *Aktionsart*, which specifies the type of the situation denoted by the predicate, distinguishes between telic and atelic predicates, affects durativity and dynamicity of the predicate, interacts with the thematic structure of the predicate, and can contribute idiosyncractic meanings, and 2) grammatical or viewpoint aspect, which is responsible for the interaction with the clausal temporal components, specifically, the reference time interval. It has been argued that lexical aspect and viewpoint aspect, in addition to being semantically different, also differ syntactically, as *v*P-internal vs. *v*P-external aspect, respectively (cf. Travis 2010 for an elaborate discussion; see also Marantz 2001, 2007, Travis 2010 for *v*P being the domain that includes lexical or 'inner' aspect and that can contribute idiosyncratic meanings). Serbian is a language which overtly marks both aspectual specifications. In Chapter 3, on the basis of the availability of VP-ellipsis under aspectual mismatches in Serbian, I provide further confirmation

for the syntactic split between the lexical aspect and the viewpoint aspect domain. Furthermore, I show that it is aspect, not finiteness, that restricts VP-ellipsis in Serbian, which supports the claim from Chapter 2, based on the availability of VP-ellipsis under finiteness mismatches, that Serbian is a no-TP language. In particular, I show that while Serbian tolerates "finiteness" mismatches under ellipsis, it does not tolerate aspectual mismatches. I also establish a new parallelism constraint between the target and the antecedent in VP-ellipsis in terms of phases.

Chapter 4 discusses the semantic aspect of the presence vs. absence of TP, namely, temporal interpretation. It is shown that, in the absence of TP, temporal interpretation can be derived by means of aspectual and modal components. Furthermore, through a detailed discussion of Serbian, this Chapter shows that under the no-TP analysis, we can account for a range of non-deictic interpretations of periphrastic past, future forms and Aorist, which are otherwise puzzling under the analysis which posits Tense in the language. This Chapter also establishes a difference between Serbian and Bulgarian with respect to Aorist and Impefectum, and shows that the parametric variation in the presence or absence of the TP layer, where TP is present in Bulgarian and absent in Serbian, derives the difference. Given that Serbian and Bulgarian also differ with respect to the availability of VP-ellipsis under finiteness mismatches discussed in Chapter 2, the presence/absence of the TP-layer can provide a systematic explanation for these two seemingly unrelated phenomena. Moreover, Chapter 4 and Chapter 5 re-examine the traditional labels of verbal forms; their semantic distribution and properties indicate that these forms are very often misclassified. This also calls for a re-examination of the traditional labels of verbal forms.

Finally, it should be noted that, although the discussion often focuses on Serbian, the study also includes a discussion of a number of genetically and typologically unrelated languages, such as European Portuguese, Danish, English, Brazilian Portuguese, Chinese, Korean, Paraguayan

Guarani, Inuktitut, Spanish, Russian, Lillooet Salish, Hungarian, Italian, Polish, French, Slovenian, Romanian, and Bulgarian, the main goal of the discussion being to establish the split between TP and no-TP languages and to provide an explanation for a number of syntactic and semantic differences that motivate this split.

CHAPTER 2: FINITENESS MISMATCHES IN VP-ELLIPSIS

VP-ellipsis is a process where a VP constituent "is missing under some kind of identity with another VP in the discourse" (Potsdam 1997:353). In (1), the strikethrough VP in the second conjunct is not pronounced, but its content can be recovered on the basis of the content of the VP in the first conjunct. I will refer to the VP that is elided as *target* and the VP in the first conjunct as *antecedent*.[6,7]

(1) Joe will [$_{VP}$ taste the food] if Mikey does [$_{VP}$ ~~taste the food~~].

(Potsdam 1997:353)

In this Chapter, I examine the patterns of a mismatch in finiteness between the target and the antecedent of ellipsis as a potential diagnostic for the presence or absence of TP. The focus of the Chapter will be on Aux-stranding VP-ellipsis, i.e. the type of VP-ellipsis where the Auxiliary is stranded and the remainder of the VP is deleted, as shown in (2) for English.

(2) José Ybarra-Jaegger is eating rutabagas, and Holly is ~~eating rutabagas~~ too.

(Johnson 2001:439)

[6] I take ellipsis to be a PF-deletion operation of syntactic structure in the target (Ross 1969, Sag 1976, Lasnik 2001, Merchant 2001, Johnson 2004, van Craenenbroeck and Lipták 2006, Vicente 2006, Ha 2008, Toosarvandani 2009, Aelbrecht 2009, van Craenenbroeck 2010, Corver and van Koppen 2010, 2011, Bošković 2014, Wurmbrand 2013, *i.a.*). See, for example, Merchant (2012) for arguments in favor of PF-deletion.

[7] Words that have been marked with strike-through indicate what has been elided, and the brackets indicate the interpretation that the elided part receives.

It should, however, be noted that Aux-stranding has been reported to be cross-linguistically rather rare (e.g. Goldberg 2005, Sailor 2009); consequently, the pool of languages discussed in this Chapter regarding Aux-stranding does not comprise a vast number. I dedicate the discussion to European Portuguese, Brazilian Portuguese, Hungarian, Bulgarian, Danish, English, Serbian, Slovenian, Russian and Polish. The focus of the investigation will be on the availability of VP-ellipsis under finiteness mismatches between the antecedent VP and the target VP, more specifically, between finite antecedents and non-finite targets.[8] Languages differ with respect to the availability of such ellipsis. However, I will show that the difference is not arbitrary: what is crucial here is the presence vs. absence of the TP-layer. More specifically, I will show that languages which according to the diagnostics employed in the thesis also lack the TP-layer allow finiteness mismatches between the antecedent and the target, whereas languages which have the TP-layer do not.

Some of the languages which are reported not to allow Aux-stranding VP-ellipsis, e.g. French, Spanish, Italian (Lobeck 1999, Silva 1999, Dagnac 2010, *i.a.*), German, Dutch, do however, allow for modal ellipsis, where the modal is pronounced while its complement is not, as in (3). At first sight, it seems that this type of ellipsis allows for finiteness mismatches between the target and the antecedent, as shown in (4). However, I will argue that this is actually not the case, which we will be able to see once we control for the different readings that modals have – root vs. epistemic. The cases that appear to involve finiteness mismatches will be shown not to involve VP-ellipsis at all. I will discuss Brazilian Portuguese, Spanish, Italian and French in this respect. The discussion of ellipsis in these languages will also shed light on the difference between VP-ellipsis and Null Complement Anaphora.

[8] In Chapter 3, I discuss the role of aspectual specification of the antecedent and the target in the availability of VP-ellipsis in Serbian (see also Todorović 2014a,b, 2015a).

(3) Tom a pu voir Lee, mais Marie n'a pas pu ~~voir~~. (French)

Tom aux.3sg could see.inf. Lee but Marie neg'aux.sg neg could see.inf.

'Tom could see Lee, but Marie couldn't (see).'

(Dagnac 2010:158)

(4) Elle joue avec qui elle peut ~~jouer avec~~.

she plays with who she can play.inf. with

'She plays with whoever she can (play with).'

Finally, it should be noted that some languages discussed in this Chapter allow for V-stranding VP-ellipsis, i.e. ellipsis of VP where the V survives ellipsis by raising out of the VP, as shown for Brazilian Portuguese in (5), which allows for this type of ellipsis, in addition to Aux-stranding VP-ellipsis. The difference between (5b) and (5c) shows that we are dealing with V-stranding VP-ellipsis and not with object pro-drop:[9] the only available interpretation of the second conjunct in (5a) is the one which includes both internal arguments as well as the adverbial; omitting the adverbial is not an option, as shown by the unavailability of the reading in (5c), which would be otherwise incorrectly predicted to be possible under the object pro-drop analysis of (5a).

[9] See Goldberg (2005) for relevant diagnostics.

(5) a. a Raquel não deu o livro para a mãe no Natal, mas a Ana deu...

the Raquel neg gave the book to the mother on Christmas, but the Ana gave

'Raquel didn't give the book to her mother on Christmas…

b. ...but Ana did (give the book to her mother on Christmas).'

c. *…but Ana did (give the book (to her mother)).'

(Sailor 2009: 71; adapted from Santos 2009)

V-stranding VP-ellipsis is cross-linguistically more common than Aux-stranding VP-ellipsis (see Goldberg 2005); e.g. in Russian (Gribanova 2013a, 2013b) and Serbian, even non-finite verbs can raise out of the VP (cf. (6) and (7)), which makes this type of ellipsis potentially relevant in terms of the discussed finiteness mismatches.[10] Although the focus of the investigation is the Aux-stranding VP-ellipsis, in sections 2.8 and 2.11, I will show that V-stranding VP-ellipsis also allows for finiteness mismatches in Serbian and Russian, which is expected under the analysis proposed in this Chapter.

(6) Kažetsja, što Anya položila ručku na stol, i knigi na stul. (Russian)

seems that Anya put.part.sg.fem pen on table and book on chair

'It seems that Anya put the pen on the table and the book on the chair.'

Net, ne položila [$_{VP}$ t_i ~~ručku na stol, i knigi na stul~~].

no, neg put.part.sg.fem pen on table and book on chair

'No, she didn't put (the pen on the table and the book on the chair).'

(Gribanova 2013b:148)

[10] For another factor to control for, see Bošković (2016b).

(7) Čini se da je Ana stavila olovku na sto a knjigu na stolicu. (Serbian)

seems SE DA is Ana put.part.sg.fem pen on table and book on chair

'It seems that Ana put the pen on the table and the book on the chair.'

Ne, nije stavila [$_{VP}$ t_i ~~olovku na sto a knjigu na stolicu~~].

No, not.is put.part.sg.fem pen on table and book on chair

'No, she didn't put (the pen on the table and the book on the chair).'

The Chapter is organized as follows: Section 2.1 illustrates the properties of Aux-stranding VP-ellipsis cross-linguistically with respect to the availability of VP-ellipsis under finiteness mismatches between the antecedent VP and the target VP, briefly providing one to two relevant examples from each language under consideration. Sections 2.2 – 2.11 provide a detailed description of the available ellipsis patterns in these languages, including the discussion of modal ellipsis and V-stranding VP-ellipsis where applicable. The main proposal in this Chapter is that cross-linguistic discrepancies in terms of the availability of VP-ellipsis under finiteness mismatches can receive a unified explanation if we resort to parametric variation with respect to the presence vs. absence of the TP-layer.

2.1 Finiteness mismatches under VP-ellipsis and mismatch in the T feature

I start the discussion of Aux-stranding VP-ellipsis with European Portuguese and Serbian, since these two languages display opposite behavior with respect to the availability of finiteness mismatches under VP-ellipsis.

Portuguese is a Verb-raising language with rich verbal morphology. It allows Aux-stranding VP-ellipsis, as shown in (8) and (9). In this respect, Portuguese patterns with English (cf. (2) and the discussion in section 2.7) and differs from other Romance languages, which disallow this type of ellipsis, as shown in (10) for Spanish, (11) for French, and (12) for Italian.[11]

(8) Perguntámos se eles já tinham chegado e, efectivamente, já tinham ~~chegado~~.
asked if they already had arrive.part. and indeed already had arrive.part.
'We asked if they had arrived already and, indeed, they already had (arrived).'
(Cyrino and Matos 2005:80)

(9) O João já tinha lido este livro, mas a Maria não tinha ~~lido este livro~~.
the João already had read.part. this book but the Maria not had read.part. this book
'João had already read this book, but Maria hadn't (read this book).'
(Nunes and Zocca 2009:33)

(10) *Susana había leído *Guerra y Paz* pero María no había ~~leído~~.
Susana had read.part. War and Peace but Maria not had read.part.
'Susana had read *War and Peace* but Maria had not (read *War and Peace*).'
(Cyrino and Matos 2005:80, quoting Silva 1999)

(11) *On a demandé si ils ont déjà mangé et ils ont ~~mangé~~.
one has ask.part. if they have already eat-part. and they have eat.part.
'One has asked if they have already eaten and they have (already eaten).'
(Lobeck 1999:99)

[11] Spanish, French, and Italian, however, allow for ellipsis of the complements of modals (cf. (3) for French)). I discuss these cases in section 2.5, putting them aside until then.

(12) *Tom ha visto a Lee ma Maria non ha ~~visto.~~

Tom has see.part. to Lee but Maria neg has see.part.

'Tom saw Lee, but Mary didn't (see Lee).'

(Dagnac 2010:157)

What is important for the current discussion is that VP-ellipsis in European Portuguese is sensitive to finiteness. In particular, VP-ellipsis is subject to a finiteness parallelism requirement between the antecedent and the target (Cyrino and Matos 2005). This is shown in (13), in which a synthetic Pluperfect form is the antecedent to the participial part of an analytic Pluperfect. In this configuration with finite antecedents and non-finite targets, VP-ellipsis is ungrammatical. In other words, European Portuguese does not tolerate finiteness mismatches in VP-ellipsis. [12]

(13) *Ela perguntou se alguém lera o jornal, mas ninguém tinha

she asked if anybody read.pluperf. the newspaper, but nobody had

~~lido o jornal.~~

read.part. the newspaper

'She asked if anybody read the newspaper, but nobody had (read the newspaper).'

(Cyrino and Matos 2005:14)

Following Merchant (2008), *i.a.*, I assume that ellipsis is subject to a syntactic identity requirement. More specifically, syntactic identity is seen as a formal identity requirement where, in order for ellipsis to be possible, the relevant syntactic-semantic features present in the target

[12] Cyrino (1997) reports that this example is judged as ungrammatical by a vast number of speakers of Brazilian Portuguese. For a more detailed discussion of Brazilian Portuguese, see section 2.5.

must also be present in the antecedent.[13] Given this requirement, the impossibility of VP-ellipsis in a finiteness mismatch context in European Portuguese is not surprising: I propose that the relevant featural mismatch is a mismatch in the T feature. If a finite verb enters into a feature checking relation with T in Portuguese (note that the finite verb actually raises to T in Brazilian Portuguese, see Nunes and Zocca 2009), and if there is a T feature with finite, but not with non-finite forms, then the feature identity requirement for ellipsis will not be satisfied, and finiteness mismatches are not expected to be tolerated under VP-ellipsis.[14]

Consider now Serbian. Like European Portuguese, Serbian allows for Aux-stranding VP-ellipsis. Ellipsis of non-finite VPs is allowed with the corresponding non-finite antecedents, as shown in (14a) for participial and in (14b) for infinitival targets.

(14) a. Aca je već pobedio Anu, ali Iva nije ~~pobedio Anu~~.
Aca is already win.pf.part. Ana but Iva not.is win.pf.part Ana
'Aca has already defeated Ana,but Iva hasn't (defeated Ana).'

b. Aca će pobediti Anu, ali Iva neće ~~pobediti Anu~~.
Aca will win.pf.inf. Ana but Iva not.will win.pf.inf. Ana
'Aca will defeat Ana, but Iva won't (defeat Ana).'

[13] The idea of the syntactic identity requirement (or as an addition to a semantic identity requirement) has also been advocated in Tancredi (1992), Rooth (1992), Fiengo and May (1994), Merchant (2013), Chung (2006, 2013), Tanaka (2011), Thoms (2014), among many others.

[14] In generative tradition, both finite and non-finite clauses can have a TP. The T feature refers to whatever feature is used to implement the traditional finite/non-finite distinction, the main point being that traditional finite and non-finite clauses/verbal forms have a different value of T in the languages where this is relevant (see also the discussion in Chapter 1).

Serbian also lacks TP (as discussed in Chapter 1, Serbian is an NP language and, as discussed in detail in Chapter 5, it also lacks temporal morphology, another indication of the lack of TP). This means there are no T features to start with, and consequently, no mismatch in the T feature between finite and non-finite forms is expected to arise under VP-ellipsis. The prediction is borne out as shown by the availability of VP-ellipsis in (15). In (15a), a finite morphological present tense form is the antecedent to a participial target, and in (15b) it is the antecedent to the infinitival target – in both instances, VP-ellipsis is allowed.[15]

(15) a. ?Ivan povremeno pobedi Anu, a Petar je samo jedanput ~~pobedio Anu~~.
Ivan occasionally wins.pf. Ana and Petar is only once win.pf.part. Ana
'Ivan sometimes defeats Ana, while Petar has (defeated Ana).'

b. ?Ivan povremeno pobedi Anu, a Petar će samo jedanput ~~pobediti Anu~~.
Ivan occasionally wins.pf. Ana and Petar will only once win.pf.inf. Ana
'Ivan sometimes defeats Ana, while Petar will (defeat Ana) only once.'

More broadly, I propose that finiteness mismatches under ellipsis can be tolerated only in languages that lack TP, where there are are no T features that would cause the mismatch. On the other hand, languages which have a TP, and thus have a T feature, do not to tolerate finiteness mismatches in VP-ellipsis. We have already discussed European Portuguese regarding the latter. Languages that pattern with European Portuguese in that VP-ellipsis is not allowed under finiteness mismatches are Bulgarian, Brazilian Portuguese, Danish, and Hungarian.

[15] The reader should bare in mind that, although I am keeping the traditional present tense label in the examples of Serbian, Russian, Slovenian and Polish, Chapter 5 will demonstrate that these languages do not have temporal morphology.

In Bulgarian, Aux-stranding VP-ellipsis is allowed under identity between the antecedent and the target; in (16), the non-finite form, i.e. participle, is antecedent to another participle form. The example in (17) shows that Bulgarian is intolerant to finiteness mismatches in VP-ellipsis – participial targets cannot be elided with finite present tense antecedents.

(16) Boris ne e pobedil Ana, a Iva e
Boris not be.3sg.pres. win.part.sg.masc Ana but Iva be.3sg.pres.
~~pobedila Ana.~~
win.part.fem.sg. Ana
'Boris hasn't defeated Ana, but Iva has (defeated Ana).'

(17) *Boris nikoga ne pobezhdava Ana, a Iva e
Boris never not win.impf.pres.3sg Ana and Iva be.3sg.pres.
~~pobedila Ana~~.
win.part.fem.sg. Ana
'Boris never defeats Ana, but Iva has (defeated Ana).'

Brazilian Portuguese, like European Portuguese, allows for Aux-stranding VP-ellipsis under the identity between the antecedent and the target, as in (18).

(18) O João já tinha lido este livro, mas a Maria não tinha

the João already had read.part. this book but the Maria not had

~~lido este livro~~.

read.part. this book

'João had already read this book, but Maria hadn't (read this book).'

(Nunes and Zocca 2009:33)

Like European Portuguese, Brazilian Portuguese also disallows finiteness mismatches, as shown in (19). The antecedent is a morphological past form and the elided form is a present participle; the VP-ellipsis is precluded.

(19) *O João dormiu e agora a Maria está ~~dormindo.~~

the João slept and now the Maria is sleeping

'John slept and now Mary is (sleeping).'

(Nunes and Zocca 2005:33)

Danish also allows for Aux-stranding VP-ellipsis under the identity between the antecedent and the target (see e.g. Houser et al. 2011, Sailor 2009), as in (20).

(20) Har du set hendes eksamenpapirer? Jeg har aldrig

have you see.part. her exam.papers I have never

~~set hendes eksamenpapirer.~~

see.part. her exam.papers

'Have you seen her exam paper? I never have (seen her exam paper).'

(Houser et al. 2011:231)

Under the finiteness mismatch in (21), where the antecedent is morphological present and the target is present perfect, the ellipsis is not allowed.

(21) *Antaktis smelter ikke, eller rettere 96% havde ikke ~~smeltet.~~

Antarctica melts not or rather 96% has not melt.part.

'Antarctica is not melting, or rather 96% hasn't (melted).'

Hungarian exhibits the same behavior: Aux-ellipsis is allowed under the identity between the antecedent and the target, as in (22).[16] However, under the finiteness mismatches, ellipsis is precluded, as in (23).

(22) Peter holnap fog aludni, és én is fogok ~~aludni~~.

Peter tomorrow will sleep.inf and I also will sleep.inf.

'Peter will sleep tomorrow and so will I (sleep).'

[16] The example is from Bartos (2000).

(23) *A busz késett, és a vonat is ~~késni~~ fog.

the bus delayed and the train also delay.inf. will

'The bus is delayed and the train will be (delayed) too.'

All these languages have been independently argued to be DP languages, based on the criteria discussed in Chapter 1. Most importantly, as discussed in Chapter 5, they have temporal morphology. Given the correlations discussed in Chapter 1, they are thus all classified as TP languages. Given the presence of T features with finite forms, these languages are expected to pattern with European Portuguese in disallowing VP-ellipsis under finiteness mismatches.[17]

Languages that pattern with Serbian in allowing VP-ellipsis even under finiteness mismatches are Slovenian, Polish, and Russian.

In Slovenian, non-finite targets can be elided with non-finite antecedents. In (24), a participle is elided under identity with another participle in the antecedent, a context where the forms receive past interpretation.

(24) Miha je udaril Ano, jaz je pa nisem ~~udaril~~.

Miha is hit.part.masc.sg. Ana, me is ptcl. not.am hit.part.masc.sg.

'Miha hit Ana, but I haven't (hit Ana).'

Crucially, like in Serbian, a non-finite form can be elided even with a finite antecedent. In (25), the finite form is the antecedent to a participle in construction that receives past interpretation, and ellipsis is allowed.

[17] I discuss the ellipsis pattern of English, another TP language, in section 2.7.

(25) Ivan občasno premaga Marijo, ampak Peter jo je pa samo enkrat

Ivan occasionally wins Marija but Peter her is pa only once

~~premagal.~~

defeat.part.masc.sg.

'Ivan defeats Marija from time to time, while Peter has (defeated Marija) only once.'

Polish also allows for Aux-stranding VP-ellipsis. In (26), both the antecedent and the target are non-finite (the auxiliary is cliticized to the subject) and the ellipsis is available.

(26) Myśmy pokonali już Brazylię, a wyście

we.be-1pl.pres. defeated already Brazil and you.aux-2pl.pres

jeszcze nie ~~pokonali.~~

still not defeat.part.masc.pl.

'We already defeated Brazil, and you haven't (defeated Brazil).'

Patterning with Serbian and Slovenian, finiteness mismatches are allowed in VP-ellipsis in Polish. Even when a finite form is the antecedent to a non-finite target, ellipsis is allowed, as in (27), with present tense antecedent and participle targets.

(27) Dzieci często pływają łodzią, a myśmy ~~pływali~~

children often sail.3pl.pres. boat and we.aux-1pl. sail.part.masc.pl.

tylko raz.

only once

'Children often sail boats, and we have (sailed) it only once.'

Russian also allows for Aux-stranding VP-ellipsis, as shown in (28), where an infinitival target is elided with an identical antecedent. As shown in (29), finiteness mismatches are tolerated in Russian:

(28) Maša budet ego vstrečat', a ja ne budu ~~vstrečat~~'

Maša will him meet-inf. but I not will meet-inf.

'Maša will meet him, but I won't (meet him).'

Gribanova (2013b:152)

(29) Ja segodnja zanimajusj linvistikoj, a zavtra

I today study.1.sg.pres. linguistics but tomorrow

(ja) ne budu ~~zanimatjsya~~.[18]

(I) not will study.inf.

'Today I study linguistics, but tomorrow I won't (study linguistics).'

All these languages are NP languages. Furthermore, as demonstrated in detail in Chapter 5, they all lack temporal morphology. According to the criteria discussed in Chapter 1, they are then

[18] The example is based on Gribanova's (2013b:151) and Bailyn's (2011:9) example.

classified as no-TP languages. In the absence of TP, and thus in the absence of a T feature, finiteness mismatches can be tolerated. Sections 2.2 – 2.11 provide a more detailed picture of ellipsis patterns in these languages. It will be shown that the crucial differences between languages that allow and those that disallow VP-ellipsis under finiteness mismatches is the presence vs. absence of the TP-layer: languages lacking the TP-layer allow for finiteness mismatches between the antecedent and the target, while languages which have the TP-layer do not.

2.2 European Portuguese

I start the discussion with languages that disallow VP-ellipsis under finiteness mismatches. As discussed above, I argue that mismatches are disallowed in languages that have a TP-layer, due to the lack of feature identity between the finite and non-finite forms in terms of the T feature (the feature being present with finite, but not with non-finite forms).

I will first discuss available VP-ellipsis patterns in European Portuguese. Recall that European Portuguese allows for VP-ellipsis under identity between the antecedent and the target, as shown in (9), and repeated below in (30). In addition to the complement of Perfect Auxiliary in (30), European Portuguese allows for VP-ellipsis of the complement of the Progressive Aspectual Auxiliary (31), and of the Passive Auxiliary (32).[19]

[19] Cyrino and Matos (2005) argue that in a configuration like (31), there is restructuring involved between the progressive aspectual auxiliary and the main verb, where they form a verbal complex and are included within a single Tense domain (cf. Matos 1992, Gonçalves 1996). In such a structure, the preposition is interpreted as an aspectual particle while the auxiliary *estar* selects for an AspP (cf. Duarte 1993) (cf. Raposo 1989 for a different structural analysis of this construction); since the preposition is part of the verbal complex, it is also affected by ellipsis.

(30) O João já tinha lido este livro, mas a Maria não tinha

the João already had read.part. this book but the Maria not had

~~lido este livro.~~

read.part. this book

'João had already read this book, but Maria hadn't (read this book).'

(Nunes and Zocca 2009:33)

(31) Q: Alguém está a ler livros às crianças?

Someone is to read.inf. books to.the children?

'Is anybody reading any books to the children?'

A: Está a Maria ~~a ler livros às crianças.~~

Is the Maria to read.inf. books to.the children

'Maria is (reading books to the children).'

(Cyrino and Matos 2002:191)

(32) O carro foi atribuído à Maria, mas os outros prémios não

the car was give.part. to.the Maria but the other prizes not

foram ~~atribuído à Maria.~~

were give.part. to Maria

'The car was given to Maria, but the other prizes were not.'

(Cyrino and Matos 2002:191)

On the other hand, finiteness mismatches between the antecedent and the target are not allowed. The example in (13), repeated below in (33), shows the impossibility of the participial target with the synthetic Pluperfect antecedent. Another illustration of the impossibility of the relevant

mismatches under VP-ellipsis is provided by cases where the morphological past form is the antecedent to an infinitival form, as in (34), as well as when the past form is the antecedent to the present participle, as in (35).[20] In all these configurations with finite antecedents and non-finite targets, VP-ellipsis is ungrammatical.

(33) *Ela perguntou se alguém lera o jornal, mas ninguém tinha
she asked if anybody read.pluperf. the newspaper, but nobody had
~~lido o jornal.~~
read.part. the newspaper
'She asked if anybody read the newspaper, but nobody had (read the newspaper).'
(Cyrino and Matos 2005:14)

(34) *A Maria estudou muito, mas o João não vai ~~estudar muito~~.
the Maria studied much, but the João not goes study.inf. much
'Maria studied very hard, but João will not (study very hard).'

(35) *O João estudou e a Maria também estava ~~estudando~~.
the João studied and the Maria also was studying
'João studied and Mary was (studying), too.'

Note that the Cyrino and Matos observe that the impossibility of finiteness mismatches does not only arise with complements of Auxiliaries – the ellipsis of a complement of a main verb is also disallowed under finiteness mismatches, as shown in (36), where the past form is the antecedent to the infinitival form. Similarly to the cases above, I argue that the mismatch in (36) is not

[20] Cyrino and Matos (2005) take *ir* 'go' to be a semi-auxiliary. I follow their analysis, and take this kind of ellipsis to be an instance of Aux-stranding ellipsis.

allowed due to a mismatch in the T feature: while the T feature is present with the finite antecedent, it is absent in the non-finite target, correctly predicting ellipsis to be impossible.

(36) *Ele trabalhava até tarde e nós também ficávamos ~~a trabalhar até tarde.~~

he worked until late and we also stayed to work.inf. until late

'He worked until late and we also stayed (working until late).'

(Cyrino and Matos 2005:92)

Note also that European Portuguese has rich verbal morphology, with an array of finite forms receiving different temporal interpretations. In Chapter 5, I show that there is temporal morphology in European Portuguese and provide a description of the distribution of tenses in this language (focusing, in particular, on Imperfectum and Pluperfect). More generally, Chapter 5 is dedicated to the discussion of the morphological grounding of the TP/no-TP classification. Languages with temporal morphology obviously have TP. The possibility of not having TP arises only for languages without temporal morphology; in fact, in Chapter 5, I suggest that such languages cannot have TP. At any rate, what is important for our purposes is that European Portuguese, which also has articles, is classified as a TP language.

2.3 Bulgarian

As shown in section 2.1, Bulgarian allows for Aux-stranding VP-ellipsis under identity between the antecedent and the target, periphrastic future being one of the forms. Periphrastic

future is composed of the invariant element *shte* and morphological present tense, as in (37).[21] Krapova (1999) argues that *shte* forms a complex with the present tense in its complement, and that *shte* is the element which is located in TP and realizes the feature T of that complex.[22] Forms receiving future-in-the past interpretation in Bulgarian also mark the tense difference on *shte*, while the morphological present tense complement remains unchanged, as indicated in (38). I thus follow Krapova in assuming that the present tense form in these constructions is a tenseless part of the complex. As shown in (39), the ellipsis of the complement is allowed.

(37) Tja shte da pishe pismoto.
she fut-impf. DA write.3sg.pres. the.letter
'She will write the letter.'
(Rivero 2005:1118)

(38) Tja shteshe da pishe pismoto.
she fut.impf. DA write.3sg.pres. the.letter
'She would write the letter.'
(Rivero 2005:1119)

(39) Boris njama da pobedi Ana, no Iva shte ~~pobedi Ana~~.
Boris will.not DA win.3sg.pres. Ana but Iva will win.3sg.pres. Ana
'Boris won't defeat Ana, but Iva will (defeat Ana).'

Regarding finiteness mismatches, it was shown in section 2.1 that Bulgarian does not tolerate finiteness mismatches under VP-ellipsis, as repeated in (40), where finite present tense is the

[21] *Njama da* + present is used as a negated future form.
[22] But see Rivero (1994) who argues that *shte* heads a modal projection (see also Migdalski 2006).

antecedent and a non-finite participial form is the target. The same holds for examples which contain present tense antecedent and target which is a part of the form denoting future, as in (41) – ellipsis is precluded.

(40) *Boris nikoga ne pobezhdava Ana, a Iva e ~~pobedila Ana~~.
Boris never not win.impf.pres.3sg Ana and Iva is win.part.fem.sg. Ana
'Boris never defeats Ana, but Iva has (defeated Ana).'

(41) *Boris nikoga ne pobezhdava Ana, a Iva shte ~~pobedi Ana~~.
Boris never not win.impf.pres.3sg Ana but Iva will win.3sg.pres. Ana
'Boris never defeats Ana, but Iva will (defeat Ana).'

The latter example is especially interesting because the antecedent and the target are both instances of morphological present tense. However, if only the antecedent is a finite form, containing the T feature, while the target is lacking the T feature (the feature being present on *shte*), the impossibility of ellipsis can be easily explained – the feature requirement for ellipsis is not satisfied. The same kind of featural mismatch, I argue, captures the lack of ellipsis of participle targets with the present tense antecedent in (40).

In Chapter 5, I return to the morphological make-up and distribution of tenses in Bulgarian, showing that there is true temporal morphology in finite forms, which, according to the analysis in that Chapter, confirms the TP status of Bulgarian (which is also a DP language).

2.4 Danish

Danish, similar to European Portuguese and Bulgarian, allows for Aux-stranding VP-ellipsis under the identity between the antecedent and the target (see e.g. Houser et al. 2011, Sailor 2009), as in (42) with forms receiving Present Perfect interpretation.[23]

(42) Har du set hendes eksamenpapirer? Jeg har aldrig
have you see.part. her exam.papers I have never
~~set hendes eksamenpapirer.~~
see.part. her exam.papers
'Have you seen her exam paper? I have never (seen her exam papers).'
(Houser et al. 2011:231)

Ellipsis of the complements of *vil* initially also appears to be possible:

[23] An alternative strategy that Danish employs when the VP is elided is the use of the verbal element *gøre* 'do', as in (i). Houser et al. (2011) observe that *gøre* does not appear with an overt VP: the VP is either elided or realized as a verbal proform *det*, as in (ii); the only configuration in which the VP is overtly realized with *gøre* is when it is topicalized, as in (iii). In all these cases, *gøre* carries the tense suffix. This is clear in the case of topicalized VP where the main verb appears in infinitive, while *gøre* occurs in the past form, i.e. *gjorde.* I, however, leave these constructions outside of the current discussion, since it is not entirely clear whether *gøre* is an Auxiliary or used as a pro-form (for relevant discussion, see Houser et al. 2011, Ørsnes 2011, Platzak 2012, *i.a.*)

(i) Mona og Jasper vaskede bilen eller reter Mona <u>gjorde</u>.
Mona and Jasper washed car-def or rather Mona did
'Mona and Jasper washed the car or rather Mona did.'
(ii) Mona vaskede ikke bilen men det <u>gjorde</u> Jasper.
Mona washed not car-def but DET did Jasper
'Mona didn't wash the car, but Jasper did.'
(iii) Jasper lovede at vaske bilen of vaske bilen <u>gjorde</u> han så sandelig.
Jasper promised to wash-inf car-def and wash-inf. car-def. did he so truly
'Jasper promised to wash the car and washed the car he did so truly.'

(43) Hun bærer tørklæde, fordi hun gerne vil ~~bære tørklæde~~

she wears scarf because she wants wear.inf. scarf

'She is wearing a scarf because she wants to (be wearing a scarf).'

However, my consultant reports that she interprets *vil* as the verb 'want', rather than as the future-oriented modal. The use of *vil* for future-oriented purposes is relatively recent; the more common way to express future is with morphological present tense. What is important here is that when *vil* is interpreted as 'want', we may be dealing not with VP-ellipsis but with Null Complement Anaphora, a gap which differs from VP-ellipsis, among other properties, by having different distribution, i.e. by being allowed in environments in which VP-ellipsis is disallowed and vice versa (Hankamer and Sag 1976 and Sag 1976, *i.a.*), as will be discussed in detail in section 2.5. 'Want' in particular licenses Null Complement Anaphora in many languages (see, e.g. Depiante 2000 for Spanish and Matos and Cyrino 2006 for Portuguese). Note that, as soon as the true future meaning of *vil* is enforced in Danish, as in (44), ellipsis becomes ungrammatical (the sentence is, however, grammatical without ellipsis). I thus leave out these forms for the purpose of mismatches.

(44) *Toget vil komme og bussen vil ~~komme~~ også.

train will come-inf. and bus will come-inf. too

'The train will come and the bus will (come) too.'

With a mismatch in finiteness between the antecedent and the target, i.e. when the antecedent is a finite form and the target is a non-finite form, VP-ellipsis is precluded. In (45a), the antecedent is

morphological present and the target is present perfect. The ellipsis is not allowed. With past tense antecedents, the same situation arises – with participial targets, the ellipsis is precluded, as in (45b).

(45) a. *Antaktis smelter ikke, eller rettere 96% havde ikke ~~smeltet.~~
Antarctica melts not or rather 96% has not melt.part.
'Antarctica is not melting, or rather 96% hasn't.'

b. *Peter boede på det samme hotel som Anna har/ havde ~~livet~~.
Peter lived in the same hotel, as Anne has/ had live.part.
'Peter lived in the same hotel, as Anne has/had lived.'

According to the analysis proposed in this Chapter, we expect this situation to arise when there is a mismatch in the T feature between the antecedent and the target – the feature requirement for ellipsis will fail to be satisfied. In Chapter 5, I demonstrate that Danish also has pure temporal-dedicated morphology, which confirms its TP language status.

2.5 Brazilian Portuguese

Regarding finiteness mismatches in Brazilian Portuguese, it should be noted that this language patterns with European Portuguese in most part of the relevant paradigm. As observed by Nunes and Zoca (2009) mismatches are precluded when the target is a present participle, as in (46a),

past participle, as in (46b), or when it involves auxiliaries *ser* ‘be’, as in (47a), *estar* ‘be’, as in (47b), and the auxiliary *ter* ‘have’, as in (47c).

(46) a. *O João dormiu e agora a Maria está ~~dormindo.~~

the João slept and now the Maria is sleeping

‘John slept and now Mary is (sleeping).’

(Nunes and Zocca 2005:33)

b. *Só ontem o João viajou.

only yesterday the João traveled

Na semana passada, a Maria já tinha ~~viajado.~~

in-the week last the Maria already had travel.part.

‘Only yesterday did João travel. Last week Maria already had (traveled).’

(Nunes and Zocca 2005:36)

(47) a. *O João era famoso e o filho dele também vai ~~ser famoso.~~

the João was famous and the son of-his also goes be.inf famous

'João was famous and his son will (be famous) too.'

b. *Ontem o João esteve aqui e amanhã a Maria vai ~~estar aqui.~~

yesterday the João was here and tomorrow the Maria goes be.inf. here

'Yesterday João was here and tomorrow Maria will (be here) too.'

c. *Até ontem ele ainda não tinha chegado, mas até terça

until yesterday he still not had arrive.part. but until Tuesday

já vai ~~ter chegado.~~

already goes have.inf arrive.part.

'Until yesterday, he hadn't arrived yet, but until Tuesday will already (have arrived).'

(Nunes and Zocca 2005:33)

Note first that Brazilian Portuguese, like European Portuguese, is a TP language, according to criteria from Chapter 1. The ungrammaticality of the above examples is then expected under the analysis proposed in this Chapter – due to the presence of T feature with finite, but not with non-finite forms, the feature identity requirement will not be satisfied and the ellipsis is correctly predicted to be precluded under finiteness mismatches. However, Zocca (2003), and Nunes and Zocca (2009) also provide instances of VP-ellipsis in Brazilian Portuguese which are allowed even under finiteness mismatches. In (48), the antecedents are morphological past forms, whereas the targets are infinitival complements of the verb *ir* 'go', and VP-ellipsis is allowed.

(48) a. Eu já comi, mas a Maria ainda vai ~~comer~~.

I already ate but the Maria still goes eat.inf.

'I've already eaten, but Maria's still going to (eat).'

b. Ontem eles assistiram este filme, e amanhã eu vou

yesterday they watched this movie and tomorrow I go

~~assistir este filme.~~

watch.inf this movie

'Yesterday, they watched this movie, and tomorrow I will (watch this movie).'

(Nunes and Zocca 2005:33)

The examples in (48) seem to be problematic for the analysis proposed in this Chapter, because the mismatch in the T feature between the antecedent and the target is incorrectly predicted to result in the unavailability of VP-ellipsis here. I suggest that ellipsis of infinitival complements is a peculiar case and that there are interfering factors in (48).

First, there is an indication that cases like (48) are not instances of VP-ellipsis. Indeed, Cyrino and Matos (2005) argue that the Brazilian Portuguese acceptable counterpart of European Portuguese (34) from Zocca (2003) (which exemplify the same configuration as (48)) should be analyzed as Null Complement Anaphora.

According to Hankamer and Sag (1976) and Sag (1980), Null Complement Anaphora is an instance of Deep Anaphora, which is a pragmatically controlled anaphora whose reference is established from the context, and which crucially does not exhibit internal syntactic structure. Deep Anaphora should be distinguished from Surface Anaphora, which is a syntactically controlled anaphora, i.e. it requires a syntactic antecedent and it has internal structure. This is

exemplified by the contrast between (49) and (50): in (49), there is no syntactic antecedent, and only Deep Anaphora, represented by the pro-form *do-it*, is felicitous, whereas the Surface Anaphora, instantiated by VP-ellipsis in (50), is generally only felicitous with a linguistically present antecedent.[24] Ellipsis processes are thus considered to be instances of Surface Anaphora. Hankamer and Sag (1976) argue that Null Complement Anaphora (henceforth NCA), which is superficially not different from the Surface Anaphora in that neither contains overt material, shows characteristics of Deep Anaphora, i.e. it can be interpreted from the context without the need for syntactic antecedent, as shown in (51).

(49) Context: Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop.

Sag: # It's not clear that you'll be able to. * Surface anaphora

Sag: It is not clear that you'll be able to do it. √ Deep anaphora

(50) Hankamer: I'm going to stuff this ball through this hoop.

Sag: It's not clear that you'll be able to. √ Surface anaphora

(Hankamer and Sag 1976:392)

(51) Context: Indulgent father feeds baby chocolate bar for dinner.

Mother: I don't approve.

Context: Two people are disturbed by loud noises of popcorn-eating in adjacent row.

One to the other: Don't you think we should complain?

(Hankamer and Sag 1976:411)

[24] Hankamer and Sag (1976:391) provide examples as in (i) to show that the linguistic antecedent of Surface Anaphora is not necessarily present in the same sentence. (i) is not just a case of pragmatic control because the antecedent does not even exist in the real world.

(i) Is the unicorn a possible animal?
I don't know, but if it is, it is certainly a herbivore.

Depiante (2000) extends this analysis to Italian and Spanish and argues that NCA also shows characteristics of Deep Anaphora in these languages. Cyrino (2004) and Cyrino and Matos (2006), observe that, similarly to NCA in English and Spanish, NCA in Portuguese may have a pragmatic antecedent, as in (52) (Cyrino makes the observation for Brazilian Portuguese and Cyrino and Matos for both Brazilian and European Portuguese).

(52) Context: indulgent father feeds baby chocolate bar for dinner

Mother: Nao aprovo ____!

not approve.pres.1sg

'I do not approve!"

(Cyrino &Matos 2006:105)

However, Cyrino (2004) and Cyrino and Matos (2006) argue that NCA in Portuguese displays internal structure due to it being able to license Missing Antecedent Pronouns, to allow *Wh*-extraction, topicalization out of the omitted complement, and Antecedent Contained Deletion, as well as both strict and sloppy readings. They thus argue that NCA should be analyzed as Surface Anaphora and that the above properties obscure the difference between NCA and VP-ellipsis in Portuguese, which is also an instance of Surface anaphora. However, there is an alternative explanation: both options are available in these environments – phonologically null complements can then be either instances of NCA, a deep anaphora as standardly assumed, or instances of VP-ellipsis, which is an instance of Surface anaphora, i.e. both derivations are in principle possible. This explanation can also easily capture the availability of pragmatic antecedent (NCA derivation) and the availability of processes associated with the

presence of internal structure (VP-ellipsis derivation), i.e. the mixed deep/surface anaphora behavior of the elements in question.

There are also cases which can be unambiguously treated as instances of NCA. Cyrino and Matos (2004) observe that, in Portuguese, like in Spanish (Depiante 2000) and English, NCA is lexically determined (see also Matos 2003); it is licensed by certain restructuring verbs, quasi-auxiliary verbs, i.e. modals and aspectuals, and some main verbs (cf. (52)). This is relevant because 'lexical pickiness' is expected to arise with NCA, but not with VP-ellipsis. Consider in this respect examples in (53)-(56).

(53) a. O João malhava, mas agora ele nao pode malhar.
the João exercised but now he not can exercise.inf.

b. *O João malhava, mas agora ele nao pode isso.
the João exercised but now he not can that

c. O João malhava, mas agora ele nao pode.
'João exercised, but João cannot (exercise) now.'

(54) a. No fim do ano o João nao tinha comprado um carro ainda, mas
at-the end of-the year the João not had buy.part. a car yet but
no fim ele veio (a comprar).
in-the end he came to buy.inf

b. *No fim do ano o João o nao tinha comprado um carro ainda, mas no fim ele veio isso.

c. No fim do ano o João o nao tinha comprado um carro ainda, mas no fim ele veio.
'At the end of the year João hadn't bought a car yet, but he managed to (buy it) in the end.'

(55) a. O João nao acordava cedo, mas agora ele costuma acordavar cedo.

the João not woke.up early but now he uses.to wake.up-inf. early

b. *O Joao nao acordava cedo, mas agora ele costuma isso.

c. ?O Joao nao acordava cedo, mas agora ele costuma.

'Joao wasn't waking up early, but now he is accostumed to (waking up early).'

(56) a. O João nao bebia mais, mas agora voltou a beber.

the João not drank anymore but now went.back to drink

b. *O João nao bebia mais, mas agora voltou a isso.

c. ??O João nao bebia mais, mas agora voltou.

'João didn't drink anymore, but now he went back to (drinking).'

Examples in (a) show that the verbs in question can take infinitival complements, while examples in (b) show that they must take infinitival complements, i.e. they cannot take NP complements. The examples in (c) exemplify the lack of pronunciation of the complement. These examples are relevant because they are not equally acceptable: whereas the infinitival complement can be null with, e.g. modal *poder* 'can' in (53c), and the verb *vir* 'come to' in (54c), (55c) with the verb *costumar* 'to be accustomed to' is somewhat degraded, whereas (56c) with the verb *voltar* 'to return' is judged even worse by my consultants.[25] If what we are dealing with here is NCA, which is lexically restricted, that is exactly what we would expect – to see

[25] Prepositions can be elided along with verb, as indicated in (i).

(i) Ela havia de ver esse filme e tu também havias ~~de ver esse filme~~! (EP/BP)
she had to see.inf that movie and you too had to see.inf that movie
'She should see that movie and you should (see that movie), too!'
(Cyrino and Matos 2005:88)

differences in the acceptability of null complements with different verbs. On the other hand, lexical choice should not be able to affect the availability of null complements if we are dealing with VP-ellipsis in these examples.

Furthermore, Cyrino and Matos observe another difference between NCA and VP-ellipsis, which is the lack of lexical or structural parallelism requirement with NCA. In (57), the antecedent contains preposition *de,* but the unpronounced constituent contains preposition *a*. In (58), the NCA antecedent is in active voice, while the omitted constituent is passive. As shown in (59), mismatches as in (57) are not allowed with VP-ellipsis.

(57) Ela gostaria de fazer un jantar para toda a familia e eu
he like.3sg.cond. of make.inf. a dinner for all the family and I
ofereci-me [para fazer un jantar].
offer.1sg.pst.-refl. to make.inf. a dinner
'He would like to make a dinner for all the family, and I volunteered.'
(Cyrino and Matos 2006:105)

(58) A mae queria lavar a criança, mas ela recusuo-se
the mother wanted wash.inf. the child but she refuse.pst.3.sg-refl.
[a ser lavada].
to be.inf wash.part.
'The mother wanted to wash the child, but he/she refused (to be washed).'
(Cyrino and Matos 2006:105)

(59) O Jõao tinha de entregar o trabalho na quarta e a Maria

the Jõao had of deliver.inf. the work in.the Wednesday and the Maria

tinha ~~de/*para entregar~~ também.

had of/ to deliver.inf. too

'Jõao had to finish work on Wednesday and Mary had to as well.'

Another diagnostics that we can use to tease apart VP-ellipsis and NCA is the extraction of elements out of these environments (Depiante 2000). If NCA has internal structure like elided VPs do, and like Cyrino and Matos claim, extraction should be possible. If, however, NCA is substantially different from VP-ellipsis in that it lacks internal structure (as standardly assumed, see Hankamer and Sag 1976, Sag 1980, Depiante 2000, *i.a.*), then extraction is expected to be impossible. Consider (60) and (61).

(60) <u>Context</u>: John was painting windows, but he refused to paint one of them because it was too fragile and he didn't want to break it.

a. Que janela o Jõao recusou pintar?

which window the Jõao refused paint.inf.

Which window did Jõao refuse to paint?

b. ??Que janela o Jõao recusou (pintar)?

which window the Jõao refused paint.inf.

'Which window did Jõao refuse (to paint)?

(61) Context: John was supposed to paint the windows, but too many of them were fragile. Still he needed to do at least something.

a. Que janelas o Jõao concordou (em) pintar?

which windows the Jõao agreed (in) paint.inf.

Which windows did Jõao agree (to paint)?

b. *Que janelas o Jõao concordou ((em) pintar))?

which windows the Jõao agreed (in) paint.inf.

Which windows did Jõao agree (to paint)?

Pragmatic antecedent sets the context. While the extraction out of the complement is in principle possible as in (60a) and (61a), the extraction out of a null complement is either degraded (60b) or it results in a completely ungrammatical sentence (61b). This is exactly what we expect if we are dealing with null elements lacking internal structure.

Now, we can finally return to the problematic case with the verb *ir* 'go' in (48) from Nunes and Zocca (repeated in (62)). Cyrino and Matos briefly suggest that cases like (62) might be instances of NCA. We can actually test that with extraction. In the absence of internal structure, the extraction should be impossible. As indicated in (63), extraction is indeed not possible.

(62) a. Eu já comi, mas a Maria ainda vai ~~comer~~.

I already ate but the Maria still goes eat.inf.

'I've already eaten, but Maria's still going to (eat).'

b. Ontem eles assistiram este filme, e amanhã eu vou ~~assistir este filme.~~

yesterday they watched this movie and tomorrow I go watch.inf this movie

'Yesterday, they watched this movie, and tomorrow I will.'

(Nunes and Zocca 2005:33)

(63) Context: There is a bunch of DVDs on Peter's desk. He watches a lot of them and I am wondering which one he will choose to watch tomorrow

*Eu nao sei o que eles vao [assistir] amanhã.

I not know the that movie will watch tomorrow

'I don't know which movie he will (watch) tomorrow.'

If the absence of internal structure is taken as an indication of NCA, then we are no longer dealing with a problematic example in terms of finiteness mismatches in VP-ellipsis. This is due to the lack of parallelism requirement in NCA, an instance of deep anaphora, as confirmed by the lack of preposition identity in (57) and voice identity in (58). In other words, I propose that what we are dealing with in (62) is not an instance of VP-ellipsis, but rather NCA, hence no identity requirement needs to hold between the antecedent and the target, NCA not involving ellipsis. Such an analysis correctly predicts the example to be grammatical. It also accounts for the ungrammaticality of (63).

Note further, that Nunes and Zocca observe that mismatches are allowed with VP-ellipsis of the complement of the modal 'should', as given in (64). Cyrino and Matos (2006) and Matos

(1997) classify this modal in the class of licensers of NCA. There is indeed a way to tease apart VP-ellipsis and NCA with this particular modal.

(64) Nós não convidamos o João, mas você deveria (convidar o João).
we not invited the João but you should invite.inf the João
'We didn't invite João, but you should (invite João).'
(Nunes and Zocca 2005:33)

Modals are generally ambiguous between root (those that express e.g. ability, obligation or permission) and epistemic readings (those that express inference or possibility), as in (65).[26]

(65) Maria no pudo salir a esa hora.
Maria not could go.inf at that time
Root reading: Maria wasn't able to go out at that time.
Epistemic reading: It isn't possible that Maria went out at that time.

Lopez (1994) and Saez (1989/90) note that the epistemic reading is lost in Spanish and Italian in the cases which have been independently argued to instantiate NCA (see also Bošković 1994 for Norwegian). Depiante (2000) argues that, since root modals are external theta-role assigning verbs (control verbs) and epistemic modals are not external theta-role assigners (raising verbs), the epistemic reading in (66) is lost because *Carlos* does not receive a Theta Role; this problem does not arise with a root reading because *poder* is a theta-role assigner (see also Bošković

[26] For the classification of modals and different syntactic and semantic properties of the classes, see Hoffman (1966), Bybee, Perkins & Pagliuca (1994), Hacquard (2006), among many others.

1994). The same holds for Italian (67), Depiante argues. More generally, Depiante argues that the lack of external theta-role assigners also accounts for the lack of NCA with auxiliaries in Spanish in (68) and in Italian in (69).[27]

(66) Carlos pudo salir a las 12 pero Juan no pudo Ø. (Spanish)

Carlos could leave.inf. at the 12 but Juan not could

Root reading: ...but Juan was not able to go out at 12.

Epistemic reading: * ...but it is not possible that Juan left at 12.

(67) Gianni puo andare via alle 12, Pietro invece non puo Ø. (Italian)

Gianni could leave.inf. at the 12, Pietro instead not could

Root reading... but Pietro was not able to leave at 12.

Epistemic reading: *...but it is not possible for Pietro to leave at 12.

(68) *Juan habia leido este libro y Pedro tambien habia Ø.

Juan has read.part. this book and Pedro also has

'Juan has read this book and Peter also has.'

(69) *Gianni ha letto questo libro e anche Pietro ha Ø.

Gianni has read.part. this book and also Pietro has

'Gianni read this book and Pietro also has.'

[27] Note that, given the absence of the epistemic reading in (66)-(69), both NCA and VP-ellipsis should be unavailable with epistemic modals in Spanish and Italian. However, there might be an independent explanation for the latter. If epistemic modals are functional, and there is the Spec-Head agreement requirement for the ellipsis of complements of functional heads (Lobeck 1990, Saito and Murasugi 1990), then the lack of Spec-Head agreement with these modals might independently exclude VP-ellipsis of complements of epistemic modals (see Martin 1992, and Bošković 1997, 2007). Alternatively, it is possible that the phasal constraint on ellipsis discussed in Chapter 3 is the relevant factor here. I leave providing a full account of the restriction for future research.

Regarding the current discussion, it is important to note that the root reading will allow for both VP-ellipsis and NCA, according to Depiante (2000). Consider now the example from Nunes and Zocca in (64). The modal *dever* expresses suggestion, i.e. it receives a root modal interpretation. This interpretation is compatible with both NCA and the VP-ellipsis analysis of the gap. Thus, the example from Nunes and Zocca in (64) is not a clear case of VP-ellipsis, it can also be taken to instantiate NCA (as independently argued by Matos and Cyrino 2006:109), in which case the availability of mismatches would receive a straightforward explanation. Furthermore, note that, in Brazilian Portuguese, unlike in Spanish and Italian, it is actually possible to omit the complement of certain epistemic modals.[28] According to Depiante, with the overtly null complements of epistemic modals, the NCA interpretation should be lost. In (70a), due to the context, the modal is unambiguously interpreted epistemically, hence I take this to be an unambiguous case of VP-ellipsis. Interestingly, under a finiteness mismatch, the gap after the modal results in ungrammaticality, as shown in (70b). What (70b) shows is that finiteness mismatches are not possible under the VP-ellipsis of the complement of *dever* 'should' in Brazilian Portuguese.

[28] One direction that can be pursued regarding the difference between Brazilian Portuguese and Spanish/Italian is that object drop in Brazilian Portuguese matters here. If object drop in Brazilian Portuguese can be analyzed as argument ellipsis (see Cyrino and Lopes 2012), we may be dealing here with argument ellipsis of the infinitive (argument ellipsis is independently known not to be possible in Spanish and Italian). This possibility requires further investigation hence I will not consider it in the text.

(70) Context: You are are at the bus station and your friend is asking you when you think Maria's bus will depart.

a. O onibus do Jõao deve sair logo, e o onibus da Maria deve
the bus of.the Jõao should leave.inf. soon and the bus of.the Maria should
~~sair logo~~ também.
leave soon too
'Jõao's bus has already left, and Mary's bus should (leave soon) too.'

b. *O onibus do Jõao j'a saiu, e o onibus da Maria deve
the bus of.the Jõao already left and the bus of.the Maria should
~~sair~~ em breve.
leave in short
'Jõao's bus has already left, and Mary's bus should leave soon.'

I thus propose that the seemingly problematic Brazilian Portuguese cases with verbs *ir* 'to go' and *dever* 'should' – under the root reading – can be accounted for under the NCA analysis: since we are dealing here with instances of NCA, the matching is not required, hence the lack of the finiteness mismatches effect. [29,30]

[29] According to Zocca (2003), the availability of ellipsis under the mismatches with the verb *ir* 'to go' in (48) and the lack thereof in examples with *ser* and *estar*, as in (47a) and (47b), stems from the morphological make-up of the verbal forms. Zocca assumes that all verbs in Brazilian Portuguese, with the exception of *ser* and *estar*, are formed by a stem plus affixes of tense and person, as in (i). In contrast, *ser* and *estar* do not have internal structure and are stored in the Lexicon as atomic, as in (ii).

(i) *estudou* => (*estud* + affixes)
studied stud
(ii) *era* => (*era*)
was was

Zocca argues that verb affixes have uninterpretable φ- and T-features which must be eliminated before Spell-Out for convergence at LF. Hence, she concludes that the availability of VP ellipsis without parallelism, as in (iii), is only apparent, because the verb forms at LF are identical. In (iv), however, the forms are not identical at LF, and the ellipsis is precluded. This approach would account for the availability of ellipsis in (48), and for its absence in (47a), (47b); (46a) is ungrammatical because *ser* and *estar* are taken to originate within the VP.

(iii) A Maria estudou muito, mas o João não vai ~~estudar.~~
A Maria estudou (estud+af_t + af_φ) muito, mas o João não vai (~~estud + aft + af~~$_\varphi$)
the Maria studied (stud+ af_t + af_φ) much but the João not goes (stud + ~~aft + af~~$_\varphi$)
'Mary has studied very hard, but John will not.'

(iv) *O João era famoso e o filho dele também vai ~~ser famoso~~.
the João was famous and the son of.him also goes be famous
'João was famous and his son will, too.'

Cyrino and Matos remark that Zocca's approach to *ser* and *estar* would at least need to extend to *ter* in order to capture the ungrammaticality of (46b) and (47c). These authors also note that, although the mismatch is predicted to be disallowed in (v), because *estar* in the second conjunct would originate in the VP, making the target different from the antecedent, Zocca also predicts ellipsis to be precluded whenever there are two different occurrences of *estar* or *ser,* since they would both originate within the same VP; this prediction is not borne out, as shown by the ellipsis examples in (vi) where two forms or *ser* are different and the ellipsis is still allowed.

(v) a. *O João estudou e a Maria também estava ~~estudando~~.
the João studied and the Maria also was studying
'João studied and Mary was, too.'

(vi) a. O João era famoso e o filho dele também vai ser ~~famoso~~.
the João was famous and the son of.him also goes be famous
'João was famous and his son will be, too.'

b. Ele é famoso, mas seu pai nunca foi ~~famoso~~.
He is famous but his father never was famous
'He is famous, but his father never was.'

c. Antigamente, as crianças eram punidas, mas agora não são ~~punidas~~.
in.old.days the children were punished but now not are punished
'In the old days, children were punished, but now they are not.'

[30] Nunes and Zoca also suggest that ellipsis in (48) is not substantially different from the ellipsis of bare forms in English as in (i) (I return to the discussion of English VP-ellipsis in section 2.7). The only difference, they argue, is that in Brazilian Portuguese bare stems cannot stand on their own, which results in insertion of infinitival morphology. They suggest that the infinitival form is the default morphological form in Portuguese, which, they argue, is supported by infinitive being the citation form for any verb in Portuguese, and by Bastos's (2001) argument based on verb topicalization where, in the absence of overt topic morphology to support the highest copy of the verb, the topicalized verb surfaces with the default infinitival morphology, as in (ii).

(i) John slept and Maria will ~~sleep~~ too.

(ii) Comprar, eu comprei o livro. (Nunes and Zocca 2005:35)
buy.inf I bought the book
'As for buying something, I bought the book.'

Although it is tempting to analyze the availability of mismatches as in (48) as the ellipsis of a default form, the default forms would somehow need to be differentiated from the forms lacking a T feature, i.e. they would need to be a separate category and one would need to precisely define what the characteristics of the default forms are. In this dissertation, I am not pursuing this option, but it might be worth considering it in future research. Alternatively,

The above discussion makes interesting predictions regarding the availability of modal ellipsis in Romance languages. As noted in section 2.1, French, Spanish, and Italian, which do not allow for Aux-stranding VP-ellipsis (e.g. Lobeck 1995), allow for modal ellipsis (see Busquets and Denis 2001, among many others). Crucially, Dagnac (2010) observes that this ellipsis is available with root modals, as in (71). Authier (2012) observes that in French, even the modals *pouvoir* 'can' and *devoir* 'must' that are ambiguous between the root and the epistemic reading, lose this epistemic reading under the ellipsis, as in (72).

(71) a. Tom a pu voir Lee, mais Marie n'a pas pu ~~voir~~. (French)

b. Tom pudo ver a Lee, pero Maria no pudo ~~ver.~~ (Spanish)

c. Tom ha potuto veder Lee, ma Maria non ha potuto ~~veder.~~ (Italian)

Tom can.past see (to) Lee, but Mary neg can.past see

'Tom could see Lee but Mary couldn't.'

(Dagnac 2010:158)

one could say that non-finite forms have a different T feature from finite forms, whereas the default forms lack the T feature altogether, in which case only the mismatch in the feature would be tolerated. Such an approach would also require a detailed classifications of default forms, but note that such an approach is compatible with the broader analysis advocated in this dissertation.

(72) a. La police doit arriver dans cinq minutes et l'ambulance doit arriver

the police must arrive.inf in five minutes and the.ambulance must arrive.inf.

dans cinq minutes aussi.

in five minutes also

'The police should arrive in ten minutes and the ambulance should also arrive in ten minutes.'

epistemic: ✓ / deontic: □

b. La police doit arriver dans cinq minutes et l'ambulance doit

the police must arrive.inf in five minutes and the.ambulance must

~~arriver~~ aussi.

arrive also

epistemic: */ deontic: □

Authier (2012:2)

Dagnac (2010) uses a battery of diagnostics to show that such examples have internal structure in Italian, Spanish (contra Depiante 2000 and Cechetto and Percus 2006, respectively) and French (see also Authier 2012), and should thus not be analyzed as involving null proforms. However, we have already seen that NCA is independently attested in Spanish and Italian precisely with non-epistemic modals.[31] Thus, given that both VP-ellipsis and the NCA option are in principle possible here in these languages, both the VP-ellipsis and the NCA derivation should be allowed with root modals. This would capture the availability of pragmatic antecedent with these modals

[31] Cyrino and Reich (2000) and Zribi-Hertz (1986) mention the possibility of NCA in French with aspectual verbs and modals.

(Depiante 2000) as well as the availability of *Wh*-movement in Spanish and ACD in Italian, which Dagnac argues to exist with these modals.

Crucially, if indeed both derivations, i.e. VP-ellipsis and NCA, are available in these languages, then we are in principle allowing for mismatches in finiteness between the first clause and the complement of modals in these languages, as in (73), since these constructions are not exclusively VP-ellipsis environments. This is important for the current discussion because all these languages are analyzed as TP languages in the current system; mismatches in finiteness, which are allowed, would thus be problematic. However, if these are not exclusively VP-ellipsis environments, the apparent mismatches are not only unproblematic, but are even expected to be tolerated under the proposed analysis – if we are not dealing with VP-ellipsis, the different specifications of the T features of these forms should not matter. Moreover, if the current proposal turns out to be on the right track, we can add finiteness mismatches as yet another diagnostics which differentiates NCA from VP-ellipsis.

(73) Maria lee todos los libros que puede ~~ler~~. (Spanish)

Maria legge tutti i libri che può ~~leggere.~~ (Italian)

Maria lit tous les livres qu'elle peut ~~lire~~. (French)

Maria reads all the books that (she) can.3sg

'Maria reads all the books that she can read.'

(Dagnac 2010: 161)

2.6 Hungarian

I now turn to Hungarian. Bartos (2000) observes that a non-finite target can be elided in Hungarian. In (74), the antecedent is a periphrastic future form containing an Auxiliary and an infinitive, while the target VP is the infinitive with the Auxiliary being stranded.[32,33]

---

[32] The examples in (74) and (75) are from Bartos (2000).

[33] In addition to periphrastic future in (74), there are two more ways to obtain future-oriented interpretation in Hungarian. One of them is with the future form of the copula *van,* which is inflected for person and number, as in (i), and which also observes distinct forms for present and past, respectively. It combines only with adjectival predicates.

(i) Jànos magas lesz.
Jànos tall be.fut
'Jànos will be tall.'
(Palffy-Muhoray 2013:140)

Another one is a non-past construction, a finite verb inflected for person, number, and object definiteness. Palffy-Muhoray (2013) observes that these predicates can derive future-interpretations, depending on the aspectual specifications of the predicate. Stative and eventive predicates, as well as achievements, derive the ongoing interpretation, as in (iia), (iib), and (iic), which can be overridden by the presence of the overt future adverbial, as in (iii). On the other hand, accomplishments obligatorily give rise to future readings, as in (iv).

(ii) a. Magda szeret-i a Zolít.
Magda love-npst.3sg. def Zoli.acc
'Magda loves Zoli.'
b. Tanul-unk.
study-npst.1pl.indef
'We are studying.'
c. Jànos kapja az ajándékot.
Jànos receive-3.sg.npst. def the.present-acc
'Jànos is getting the present right now.'
(iii) Jànos zongorázik holnap délután.
Jànos play.piano-npst.3sg.indef. tomorrow afternoon
'Jànos will play a piano tomorrow afternoon.'
(iv) Lilla elolvasja a könyvet.
Lilla PV-read-3sg.npst. def the.book-acc
'Lilla will read the book.'
(Palffy-Muhoray 2013:143)

(74) Peter holnap fog aludni, és én is fogok ~~aludni~~.

Peter tomorrow will sleep.inf and I also will.1.sg sleep.inf

'Peter will sleep tomorrow and so will I (sleep).'

When it comes to mismatches between finite and non-finite forms, Bartos observes that Hungarian does not seem to impose restrictions of this type on VP-ellipsis. This is shown in (75a), where the antecedent is morphological present, and in (75b), where the antecedent is morphological past, while the target is infinitive. Ellipsis is allowed.

(75) a. Péter alszik és Maci Laci is fog ~~aludni~~.

Peter sleep.3sg.pres. and Yogi Bear also will sleep.inf

'Peter is asleep and so will be Yogi Bear.'

b. Péter tegnap táncolt, én pedig holnap fogok ~~táncolni~~.

Peter yesterday danced I however tomorrow will dance.inf

'Peter danced yesterday, while I will do so tomorrow.'

The mismatches observed above seem to be problematic for the proposed analysis. Namely, Hungarian is a DP language, which, as discussed in Chapter 5, also has temporal morphology. In other words, Hungarian is a TP language. In fact, Brody (1995) and Surányi (2009) argue that finite V enters into a feature checking relation with T in Hungarian (see also Puskás 2000). If there is a T feature with finite but not with non-finite forms, we would expect the feature identity requirement not to be satisfied and ellipsis should be precluded, contrary to what we observe in (75).

Note, however, that the interpretations of *fog* might play a role in determining which ellipsis patterns are possible. Palffy-Muhoray (2013) observes that there are no restrictions with respect to the interpretations that *fog* can receive, as indicated in (76). If *fog* is to be treated like a modal (Palffy-Muhoray's formal definition of *fog* indeed contains a modal component), what is relevant for us is that *fog* displays characteristics compatible with root readings (intention in (76a)) and epistemic reading ((76b), (76c)), as well as those that seem to be compatible with both readings at the same time – (76d) expresses intention of the agent and potentially the knowledge of the speaker.

(76) a. Fog-ok haza-menni a buli után. Speaker intention
fog.npst.3sg.indef. home-go.inf. det. party after
'I will go home after the party.'

b. 3-kor indul-ni fog a vonat. Scheduled future
3-at set.out-inf. fog.npst.3sg.indef. def. train
'The train will leave at 3.'

c. Es-ni fog az eső. Non-scheduled future
fall.inf. fog.npst.3sg.indef. def. rain
'It will rain.'

d. Réka fog haza-menni a buli után. Non-speaker agent intention
Réka fog.npst.3sg.indef. part.go.inf. det. party after
'Réka will go home after the party.'
(Palffy-Muhoray 2013:141)

Regarding Bartos's examples, at least (75b) clearly receives the root reading. Significantly, an interesting contrast arises between epistemic and root readings of *fog*. When the epistemic reading is the only available interpretation, finiteness mismatches are not allowed:

(77) *A busz késett, és a vonat is ~~késni~~ fog.
the bus delayed and the train also delay.inf. will
'The bus is late and the train will be too.'

The contrast between (75b) and (77) shows that ellipsis with *fog* is not always available. I suggest that the example in (75b) patterns with the analysis adopted for Spanish, Italian, and French, and Portuguese modals, where a missing complement of a root modal is not a clear case of a VP-ellipsis environment. On the other hand, the ungrammaticality of (77), which is an instance of an epistemic environment, then in fact provides evidence for the analysis proposed in the thesis: due to the mismatch in the T feature, finite forms are infelicitous antecedents of non-finite complements of modals in Hungarian. However, more research is needed to determine whether complements of root modals also show characteristics of complements lacking internal structure. [34,35]

[34] In addition, it is not clear which reading the form in (75a) receives.

[35] My consultants observe that not pronouncing the gap as in (i)-(iii), where the gaps are clearly complements of root modals, results in ungrammaticality. Although a more detailed study is needed to tease apart different interpretations of modals, what the examples in (i)-(iii) and the examples in the text show is that the lack of pronunciation of the complements of modals is not always possible. One possibility is that these are indeed instances of NCA in Hungarian, which would capture the difference by resorting to lexical restrictions with respect to the omission of the complement.

(i) *János nem táncol, de most kell.
John not dance.pres but now has.to-pres.
'John doesn't dance (in general), but he has to (dance) this time.'

2.7 English

I now turn to English, which at first sight appears to be problematic for the proposed analysis. As is well-known, English allows for Aux-stranding VP-ellipsis under the identity between the antecedent and the target (see Wasow 1972, Hankamer and Sag 1976, Williams 1997, Chao 1988, Chomsky 1995, Lasnik 1995, Potsdam 1997, among many others). In (78), the elided VP is the complement of *will,* in (79) it is the complement of the Progressive Auxiliary *Be* and in (80) it is the complement of the Perfect Auxiliary *Have*.

(78) John will visit us today and Mary will ~~visit us~~ tomorrow.

(79) José Ybarra-Jaegger is eating rutabagas, and Holly is ~~eating rutabagas~~ too.

(Johnson 2001:439)

(80) Elvis has been sighted at Disneyland! So, what famous celebrity hasn't been ~~sighted at Disneyland~~?

(Potsdam 1997:353)

In addition to environments such as (78)-(80), English productively allows for what appear to be finiteness mismatches between the antecedent and the target (Sag 1976, Warner, 1985, 1986, *i.a.*):

(ii) ??János nem táncolt a múlt héten, de most kell.
John not danced the last week but now has.to-pres.
'John didn't dance last week, but he has to (dance) this time.'

(iii) ??János nem fog táncolni, de Máriának most kell.
John not will dance but Mary now has.to-pres.
'John will not dance, but Mary has to (dance) this time.'

(81) Jack fell down and Jill did ~~fall down~~ too.

(82) a. Why don't you sit quietly? I am ~~sitting quietly~~.

b. John said that he would never take money on the side but I knew he was ~~taking money on the side~~.

c. I don't like you. Never have ~~liked you~~.

(Potsdam 1997:359)

Finally, unlike Spanish, Italian and French, English allows for ellipsis of complements of epistemic modals, as in (83) and (84). More importantly, mismatches in finiteness between the antecedent and the target are allowed: the present tense form can be antecedent to a non-finite bare form complement of a modal.

(83) Context: Peter's paper got published in Science and I've heard that John knows about it and Mary does too.

It seems that John reads Science and Mary must ~~read Science~~ too, otherwise she wouldn't know about it.

(84) Context: I already know that Peter likes sushi, but on his birthday I see that the tray with sushi is empty and I have only seen Mary coming in the room where sushi was.

I know that Peter likes sushi and Mary must ~~like sushi~~ too.

The grammaticality of the examples in (83) and (84) appears to be problematic for the proposed analysis. English is clearly a TP language. If finite verbs enter into a feature checking relation with T, and if there is a T feature with finite but not with non-finite forms, the feature identity

requirement is expected not to be satisfied and ellipsis should be precluded, contrary to what we observe in (81)–(84).

However, the availability of apparent finiteness mismatches in English can be straightforwardly accounted for by embracing Lasnik's (1995) idea that only Auxiliaries in English enter the derivation inflected, while the main verbs are drawn from the lexicon bare (contra Chomsky 1993); only *Be* and auxiliary *Have* in English raise overtly to Infl in order to check features, whereas main verbs merge with the affix in Infl via Affix Hopping at PF (see also Lasnik 1981, Halle and Marantz 1993, and Bobaljik 1994, *i.a.*).[36] Given that Affix Hopping is a PF operation, and that main verbs enter the structure uninflected, this also explains why only auxiliaries and not main verbs raise overtly in English.[37] This, Lasnik argues, captures the split between lexical verbs and auxiliaries in terms of VP-ellipsis, whereby only the former allow for what appears to be a mismatch between the antecedent and the target ((81)-(84)) (though under Lasnik's analysis, there is actually no mismatch here, all relevant verbal forms are in fact non-finite), while the later allows VP-ellipsis only under strict morphological identity (Halliday and Hasan 1976; Huddleston 1978; Warner 1985, 1993; Quirk et. al. 1972, 1985; Lasnik 1995, Potsdam 1997, *i.a.*), as in (85). When there is no identity, ellipsis is legitimate only when the elided part does not include the verb *Be*, as in the case of (85c), but crucially not in (85b) and

[36] Affix hopping takes place in PF under PF-adjacency to avoid violating the Stranded Affix Filter, which demands that an affix have a proper host.

[37] In order to capture the difference between French, where all verbs raise overtly, and English, where only auxiliaries do, Chomsky (1993) posits a difference between the strength of V-features of Agr (to which V is argued to raise), i.e. V-features of Agr are strong in French, hence require overt verb raising whereas they are weak in English, hence the main verb raises in LF, due to Procrastinate, which delays an operation unless its delay causes the derivation to crash. Auxiliaries, which raise overtly in English, are semantically vacuous, Chomsky argues, and are not visible to LF operations which makes Procrastinate irrelevant, hence auxiliaries need to raise overtly (given that LF, i.e. covert syntax, is still a syntactic component, it is actually unclear why semantic vacuousness would play a role in delaying the operation). Lasnik (1995a), however, argues that in his system, there is no need for positing the above parametric differences in strength: since Auxiliaries *Be* and *Have* pattern with French verbs in raising overtly, and given that main verbs enter the structure bare in English, i.e. without inflectional features, the finite featural Infl can always be strong in both English and French.

(85d). Under the assumption that VP-ellipsis requires strict morphological identity, Lasnik's (1995) approach accounts for the contrast between (81-84) and (85) in the following way: if *Be* already enters the derivation fully inflected, then the morphological identity between the antecedent VP and the target VP cannot be established. However, in the case of the main verbs in (81-84), which enter the derivation bare, the antecedent VP is identical to the elided VP prior to merging with the affix at PF, hence the requirement for the ellipsis is met.

(85) a. Emily will be (beautiful) at the recital, and her sister will, too. (be (beautiful) at the recital)

b. *Emily was beautiful at the recital and her sister will, too. (be beautiful at the recital)

c. Emily will be elected to Congress just like her sister was. (elected to Congress)

d. *Emily was elected to Congress {because / just like} she really wanted to. (be elected to Congress)

(Warner 1985)

In the current system, Lasnik's proposal would translate to only Auxiliaries entering the derivation with a T feature, while main verbs would not (they are in fact non-finite, i.e. bare infinitives). Instead, they would merge with the Tense affix via Affix Hopping at PF. This captures the otherwise problematic finiteness mismatches between what appears to be a finite antecedent and a non-finite target in (81) and (82): if finite forms do not establish a feature-checking relation with T in syntax, then there is no mismatch in the T feature between finite and non-finite forms, in other words, there is no finiteness mismatch here, all verbal forms being non-finite. Note that this approach also accounts for the ellipsis of the complement of modals in

(83) and (84). In this case, neither the antecedent nor the target are specified for the T feature and the feature identity requirement for ellipsis is not violated.[38]

2.8 Serbian

I now turn to the discussion of languages that allow VP-ellipsis under finiteness mismatches. Recall that I argue that mismatches are allowed in languages that lack the TP-layer, since the issue of feature identity between finite and non-finite forms in terms of the T feature does not arise in such languages.

As shown in section 2.1, Serbian, a no-TP language (as discussed in Chapter 1, and more extensively in Chapter 5), allows for ellipsis of non-finite VPs with identical non-finite antecedents (cf. Section 2.2). In (86), a non-finite target − participle, which together with the Auxiliary 'be' denotes periphrastic past, and infinitive, which together with the Auxiliary 'will' denotes periphrastic future – can be elided with an identical non-finite antecedent.[39]

[38] One could also argue that the same mechanism, i.e. Affix Hopping, can apply to Danish, which would incorrectly predict VP-ellipsis to be possible under superficial finiteness mismatches. However, Danish differs from English in one relevant respect and that is verb-movement: due to the V2 word-order, the highest verbal element, be it Auxiliary or the main verb, raises to T and then to C (Vikner 1995, *i.a.*). Since, as shown by Lasnik, providing support for an affix cannot drive head movement, this can be taken to provide evidence that, unlike English, Danish finite verbs have a T feature.

[39] Interestingly, identity in terms of φ-features is also not required: participles, inflected for number and gender, do not need to match in terms of φ-features with the elided participle, as shown in (86a).

(86) a. Petar je već pobedio Mariju, ali Ivana i Marko još

Petar is already defeat.part.masc.sg Marija but Ivana and Marko still

nisu ~~pobedili Mariju.~~

not.are defeat.part.masc.pl Marija

'Petar has defeated Marija, but Ivana and Marko haven't yet (defeated Marija).'

b. Petar će pobediti Mariju, a Ivana neće ~~pobediti Mariju~~.

Petar will defeat.inf. Marija but Ivana not.will defeat.inf. Marija

'Petar will defeat Marija, although Ivana won't (defeat Marija).'

(Stjepanović 1997:300)

Crucially, what makes Serbian different from European Portuguese, Bulgarian, Danish, Brazilian Portuguese, and Hungarian is the availability of finiteness mismatches: ellipsis of non-finite VPs is also acceptable with finite antecedents, as in (87).[40]

(87) ?Oni povremeno pobede Anu, a Petar je samo jedanput

they occasionally win.pf.3pl.pres. Ana and Petar is only once

~~pobedio Anu~~/ će samo jedanput ~~pobediti Anu~~.

win.pf.part.masc.sg Ana/ will only once win.pf.inf. Ana

'They sometimes defeat Ana, while Petar has (defeated Ana)/will (defeat Ana) only once.'

[40] Stjepanović (1997) argues that finiteness mismatches are not tolerated in Serbian, i.e. non-finite targets can only be elided with non-finite antecedents. However, Stjepanović (1997)'s examples have interfering factors – aspectual specification of the antecedent and the target is not taken into account. Once aspect is controlled for, finiteness mismatches are allowed. In other words, VP-ellipsis is Serbian is sensitive to aspect and not to finiteness, as demonstrated extensively in Chapter 3.

This is further confirmed with Aorist antecedents; both infinitival and participial targets can be elided.

(88) a. Oni ne pobediše Mariju, a ni Petar neće ~~pobediti Mariju~~.
they not win.3pl.aor. Marija and nor Petar not.will win.pf.inf. Marija
'They haven't defeated Marija, and Petar won't either.'

b. Oni ne pobediše Mariju, a ni Petar još nije ~~pobedio Mariju~~.
they not win.3pl.aor. Marija and nor Petar still not.is win.pf.part.masc.sg Marija
'They haven't defeated Marija, and Petar still hasn't either.'

Finally, Serbian also allows for V-stranding VP-ellipsis. (89) is parallel to a Russian example from Section 2.1, which Gribanova (2013b) convincingly argues involves cases of VP-ellipsis, as opposed to object drop (like Russian, Serbian allows for both; see also Bošković 2016b). (89) is also in accordance with the claim that even non-finite verbs in Serbian raise out of the VP (Bošković 1997, 2001, Stjepanović 1999). Importantly, since non-finite verbs are also attested in this type of ellipsis, we can test if the V-stranding VP-ellipsis will be affected by the mismatches. As shown in (90), with a finite antecedent and a non-finite target, mismatches are allowed even under V-stranding VP-ellipsis in Serbian. In other words, (90) is in accordance with the claim that finiteness mismatches do not play a role in VP-ellipsis in Serbian.

(89) Čini se da je Ana stavila olovku na sto, a knjigu na stolicu.

seems SE DA is Ana put.part.sg.fem pen on table and book on chair

'It seems that Ana put the pen on the table and the book on the chair.'

Ne, nije stavila [$_{VP}$ t_i ~~olovku na sto a knjigu na stolicu~~].

No, not.is put.part.sg.fem pen on table and book on chair

'No, she didn't put (the pen on the table and the book on the chair).'

(90) Čini se da Ana svaki put stavi olovku na sto, a knjigu na stolicu.

seems SE DA Ana every time puts pen on table and book on chair

'It seems that Ana put the pen on the table and the book on the chair every time.'

Ovog puta nije stavila [$_{VP}$ t_i olovku na sto a knjigu na stolicu].

this time not.is put.part.sg.fem pen on table and book on chair

'No, she didn't put (the pen on the table and the book on the chair) this time.'

Under the analysis proposed in this Chapter, the availability of finiteness mismatches in Serbian can be explained by the lack of a mismatch in the T feature. As discussed in Chapter 1, due to the parallelism with the nominal domain – Serbian is an NP language – there is no TP in the language, which will be further confirmed with the discussion in Chapter 5, where I show that, despite rich verbal morphology, Serbian has no temporal morphology. Given that Serbian lacks TP, there are no T features on the verb. If TP were present, finiteness mismatches would be expected to be impossible, because there would always be a featural mismatch. If TP, however, is not present, then there are no T features to cause the mismatch between finite and non-finite forms, explaining why examples (87)-(90) are acceptable in Serbian.

More broadly, finiteness mismatches under VP-ellipsis are expected to be tolerated only in languages that lack TP – there are no T features that would cause the mismatch in such languages. In next few sections, I show that this prediction is borne out for Slovenian, Polish, and Russian, which are all TP languages, according to the classification in Chapter 1 and as confirmed in Chapter 5 by the lack of pure temporal morphology in these languages.

2.9 Slovenian

Like Serbian, Slovenian is also a no-TP language, based on the criteria discussed in Chapter 1 (see also Chapter 5). Like Serbian, Slovenian also allows for Aux-stranding VP-ellipsis, which raises an interesting question regarding finiteness mismatches in light of the absence of TP. The prediction according to the analysis proposed in the thesis is that Slovenian will allow for VP-ellipsis even under finiteness mismatches, patterning in this respect with Serbian.

In Slovenian, non-finite targets can be elided with non-finite antecedents. In (91), participles are elided under identity with another participle in the antecedent for forms receiving past interpretations and in (92) for forms receiving future interpretations.[41]

[41] Note that, in Slovenian, both periphrastic past and periphrastic future forms involve a participle, which is the form that is deleted in both cases. As expected, ellipsis of past forms with future form antecedents (i), and vice versa (ii), is possible.

(i) Janez je že premagal Ano, ampak jaz je pa ne bom ~~premagal.~~
Janez is already win.part.masc.sg. Ana, but I her pa not will win.part.masc.sg.
'Janez has already defeated Ana, but I won't (defeat Ana).'

(ii) Janez bo premagal Ano, jaz pa je nisem ~~premagal.~~
Janez will win.part.masc.sg. Ana, I pa her.gen not.am win.part.masc.sg.
'Janez will defeat Ana, but I haven't (defeated Ana).'

(91) Miha je udaril Ano, jaz je pa nisem ~~udaril~~.

Miha is hit.part.masc.sg Ana, me is pa not.am hit.part.masc.sg

'Miha hit Ana, but I haven't (hit Ana).'

(92) Miha bo udaril Ano, jaz je pa ne bom ~~udaril~~.

Miha will hit.part.masc.sg Ana me her.cl.gen pa not will hit.part.masc.sg.

'Miha will hit Ana, but I won't (hit Ana).'

Crucially, non-finite forms can be elided even with a finite antecedent.

(93) Ivan občasno premaga Marijo, ampak Peter jo je pa samo

Ivan occasionally wins Marija and Peter her is pa only

enkrat ~~premagal~~ / ampak Peter jo bo pa samo enkrat ~~premagal.~~

once win.part.masc.sg. but Peter her will pa only once win.part.masc.sg.

'Ivan defeats Marija from time to time, while Peter has(defeated Marija)/ will (defeat Marija) only once.'

The lack of effects of finiteness mismatches with VP-ellipsis can be captured by the lack of T features on finite forms: if there are no T features to cause the mismatch, the ellipsis is correctly predicted to be possible even under finiteness mismatches in Slovenian.

In Chapter 5, I show in more detail that Slovenian lacks temporal-dedicated morphology, taking that as further indication that Slovenian lacks the TP-layer (see also Migdalski 2013 for independent evidence and extension to other Slavic languages).

2.10 Polish

Like Serbian and Slovenian, Polish is also a no-TP language, based on the criterion discussed in Chapter 1 (which will also be confirmed in Chapter 5). Regarding VP-ellipsis, Polish allows for Aux-stranding VP-ellipsis. In (94), both the antecedent and the target are non-finite (the auxiliary is cliticized to the subject) and the ellipsis is available. My informants also accept VP-ellipsis under the "sloppy" identity between non-finite targets, as in (94b).

(94) a. Myśmy pokonali już Brazylię, a wyście jeszcze
we.be-1pl.pres. defeat.part.masc.pl already Brazil and you.be-2pl.pres. still
nie ~~pokonali~~.
not defeat.part.masc.pl
'We already defeated Brazil, and you haven't (defeated Brazil) yet.'

b. ?Myśmy już płynęli łodzią dwa razy a wy jeszcze
we.be-1pl.pres. already sail.part.masc.pl boat two times and you still
będziecie ~~płynąć / płynęli~~ łodzią pięć razy.
be-fut.2pl sail.inf./sail.part.masc.pl boat five times
'We already sailed the boat two times and will still be (sailing the boat) it five times.'

Crucially, under the no-TP analysis of Polish, we predict finiteness mismatches to be allowed under VP-ellipsis. The prediction is borne out – even when there is a finite target with a non-finite antecedent, ellipsis is allowed, as in (95).

(95) Dzieci często pływają łodzią, a myśmy płynęli

children often sail.3pl.pres boat and we.be1pl.pres sail.part.masc.pl

tylko raz/ a my będziemy ~~płynęli/ płynąć~~ tylko raz.

only once/ and we be.pf.1pl. sail.inf/ sail.part.masc.pl . only once

'Children often sail boats, and we will (sail boats) only once.'

In Chapter 5, I also show that Polish lacks temporal morphology, which confirms its classification into the group of TP-less languages.

2.11 Russian

Russian, like other Slavic languages discussed above (with the exception of Bulgarian), is to be classified as a no-TP language, given the discussion in Chapter 1. Regarding ellipsis, Aux-stranding VP-ellipsis is allowed in Russian – in (96) the infinitival target can be elided under identity with the infinitival antecedent.[42]

(96) Maša budet ego vstrečat', a ja ne budu ~~ego vstrečat.'~~

Maša will him meet.inf but I not will.1sg. him meet.inf.

'Maša will meet him, but I won't (meet him).'

Gribanova (2013b:152)

[42] Future forms are analytic only with imperfective verbs, whereas perfective verbs receive future interpretation with synthetic morphological present forms, as discussed in Chapter 4. The same holds for Polish.

In the configurations involving finiteness mismatches, VP-ellipsis of non-finite targets is allowed, as shown in (97) (cf. (29)). This is predicted under the no-TP analysis of Russian.

(97) Ja segodnja zanimajusj linvistikoj, a zavtra (ja) ne budu
I today study.1.sg.pres. linguistics but tomorrow (I) not will.1sg
~~zanimatjsya linvistikoj.~~
study.inf. linguistics
'Today I study linguistics, but tomorrow I won't (be studying linguistics).'

Moreover, similarly to Serbian, Russian allows for V-stranding VP-ellipsis, as argued by Gribanova (2013a, 2013b). (98) also shows that even non-finite forms raise out of VP.[43] Significantly, as in Serbian, finiteness mismatches between the antecedent and the target are allowed, as shown in (99), which is exactly what is expected given that the T feature is not present in Russian – the feature identity requirement is not jeopardized by a potential mismatch between the finite antecedent and the non-finite target.

[43] See Gribanova (2013a) for arguments that verbs in Russian raise as far as AspP (contra King 1995); see also Bailyn (1995).

(98) Kažetsja, što Anja položila ručku na stol, i knigi na stul.

seems that Anya put.part.sg.fem pen on table and book on chair

'It seems that Anya put the pen on the table and the book on the chair.'

Net, ne položila ~~ručku na stol, i knigi na stul~~.

no, neg put.part.sg.fem pen on table and book on chair

'No, she didn't put (the pen on the table and the book on the chair).'

(99) Masha kladjot knigu na stol i ručku na stul kazhdyj denj.

Masha puts.impf. book on table and pen on chair every day

no zavtra ne budet klastj ~~knigu na stol i ručku na stul kazhdyj denj~~.

but tomorrow not be.fut put.inf book on table and pen on chair every day

'But tomorrow she will not put (the pen on the table and the book on the chair).'

The above facts are thus expected under the no-TP analysis of Russian. In Chapter 5, I analyze the morphological make-up of Rusian verbal forms and conclude that Russian lacks pure temporal morphology. This will be taken as an additional indication that Russian should be classified in the same group as other languages lacking the TP layer.

2.12 Conclusion

In this Chapter, it was shown that there is cross-linguistic variation with respect to the availability of VP-ellipsis under finiteness mismatches between the elided VP and the antecedent VP. I showed that, despite cross-linguistic discrepancies, we can provide a unified explanation of

the cross-linguistic variation in question by resorting to a parametric variation with respect to the presence vs. absence of the TP-layer. The cut between languages that disallow finiteness mismatches and those that allow it corresponds to the TP/no-TP division argued for in this thesis: no-TP languages allow for finiteness mismatches between the antecedent and the target, whereas TP languages do not allow for such mismatches – the intolerance to mismatches has been argued to stem from the lack of identity in terms of the T feature in TP languages, thus violating the feature identity requirement on ellipsis in the relevant cases. Due to the absence of the T feature in TP-less languages, no violation occurs in these languages, which allows for more permissive ellipsis patterning. Finally, I have argued that the seemingly problematic cases of finiteness mismatches from TP-languages should be treated as instances of Null Complement Anaphora, thus adding finiteness mismatches to the set of diagnostics which tease apart Null Complement Anaphora and VP-ellipsis.

CHAPTER 3: THE ROLE OF ASPECT IN VP-ELLIPSIS IN SERBIAN

In Chapter 2, I showed that Serbian allows for Aux-stranding VP-ellipsis, i.e. the type of VP-ellipsis where the Auxiliary is stranded and the remainder of VP is deleted, as shown in (1).[44]

(1) a. Aca je već pobedio Anu, ali Iva nije ~~pobedio Anu~~.
Aca is already won.**pf**.part. Ana but Iva not.is win.**pf**.part. Ana.
'Aca has already defeated Ana, but Iva hasn't (defeated Ana).'

b. Aca će pobediti Anu, ali Iva neće ~~pobediti Anu~~.
Aca will win-**pf.**inf Ana but Iva not.will win-**pf.**inf. Ana
'Aca will defeat Ana, but Iva won't (defeat Ana).'

Chapter 2 also showed that VP-ellipsis in Serbian is not sensitive to finiteness, i.e. non-finite targets can be elided with finite antecedents. In (2a), a finite morphological present tense form is the antecedent to a participial target, and in (2b) it is the antecedent to an infinitival target – in both instances, VP-ellipsis is allowed.

[44] As demonstrated in Chapter 2, participles in Serbian are inflected for number and gender. I am, however, omitting their gender and number specifications throughout this Chapter since mismatches between the antecedent and the target in terms of φ-features are allowed, as demonstrated in section 2.8.

(2) a. ?Ivan povremeno pobedi Anu, a Petar je samo jedanput ~~pobedio Anu~~.

Ivan occasionally wins.**pf**. Ana and Petar is only once win-**pf**.part. Ana

'Ivan sometimes defeats Ana, while Petar has only once (defeated Ana).'

b. ?Ivan povremeno pobedi Anu, a Petar će samo jedanput ~~pobediti Anu~~.

Ivan occasionally wins.**pf**. Ana and Petar will only once win.**pf**.inf. Ana

'Ivan sometimes defeats Ana, while Petar will (defeat Ana) only once.'

I also argued in Chapter 2 that the avilability of these mismatches in Serbian is due to the absence of the T feature, or more broadly, due to the absence of the TP-layer in the language (which, as it will be discussed in Chapter 5, correlates with the absence of temporal morphology in the language). In the absence of the T feature in TP-less languages, there is no mismatch between finite and non-finite forms in terms of this feature, which allows for a wider array of ellipsis patterns than what is found in TP-languages. In other words, there is a cross-linguistic split in terms of the availability of this type of ellipsis which correlates with the presence vs. absence of the TP-layer.

This Chapter discusses properties of VP-ellipsis in Serbian in more detail, focusing on the role of the aspectual specification of the target and the antecedent. It will be shown that in Serbian, VP-ellipsis is aspect-sensitive, i.e. it is not permitted with certain aspectual mismatches between the antecedent and the target. To illustrate, in (3), the antecedent is specified for perfective aspect, while the target is specified for imperfective aspect. The ellipsis is disallowed.

Conversely, with the imperfective antecedent and the perfective target in (4), the ellipsis is allowed.[45,46]

(3) a. *Petar je juče položio ispite, a Marko je godinama ~~polagao ispite~~.
Petar is yesterday pass.**pf.**part. exams and Marko is years pass.**impf.**part. exams
'Petar passed the exams yesterday, while Marko has (been taking them) in years.'

b. *Petar iz prve položi ispite, a Marko je godinama ~~polagao ispite~~.
Petar from first passes.**pf.** exams and Marko is years pass.**impf.**part. exams
'Petar passes the exams easily, while Marko has (taken the exams) for years'

(4) a. Petar je uvek pobeđivao Mariju, a Marko je samo jedanput ~~pobedio Mariju.~~
Petar is always win.**impf.**part. Marija and Marko is only one.time win.**pf.**part. Marija
'Petar has always been defeating Marija, while Marko has (defeated Marija) only once.'

b. Petar uvek pobeđuje Mariju, a Marko je samo jedanput ~~pobedio Mariju.~~
Petar always wins-**impf.** Marija and Marko is only one.time won-**pf.** Marija
'Petar is always defeating Marija, while Marko has (defeated Marija) only once.'

Importantly, what (3) and (4) illustrate is that with aspectual mismatches, both finite and non-finite antecedents pattern the same in allowing or disallowing VP-ellipsis. This provides further

[45] At this point, the overall picture is largely simplified for the sake of illustration. More specifically, perfective verbs can sometimes be antecedents of imperfective targets (unlike (3)), while not every imperfective verb is a licit antecedent of a perfective target (unlike (4)). Patterning of both aspectual values is discussed in detail in section 3.2.
[46] I am omitting infinitival targets, including them only when it is relevant for the discussion at hand, i.e. when they differ from the participial targets in terms of the availability of VP-ellipsis.

support for the claim from Chapter 2 that VP-ellipsis in Serbian is not sensitive to finiteness. Instead, I argue that VP-ellipsis is affected by the aspectual specification on the verb.

This Chapter is organized as follows: In section 3.1, I summarize Stjepanović's (1997) observation that VP-ellipsis in Serbian is sensitive to finiteness. I show that Stjepanović's examples have interfering factors – aspectual specification of the antecedent and the target is not taken into account. Once the aspect is controlled for, finiteness mismatches are allowed. I section 3.2, I illutrate different aspectual mismatches between the antecedent and the target, showing further that it is the aspect, rather than finiteness, that affects the availability of ellipsis when it comes to mismatches. In section 3.3, I provide an account of the availability of ellipsis under aspectual mismatches, most of which have not been noted before, showing that the availability of VP-ellipsis in Serbian can be accounted for under a phase-governed approach to ellipsis, whereby only phases and phasal complements can be elided, as argued in Bošković (2014). However, I argue that VP-ellipsis in Serbian is even more constrained in that, beside the phasal status of the target, the phasal status of the antecedent also matters. More specifically, I argue that for ellipsis to be available, the target and the antecedent need to match in the phasal status, i.e. either both are phases or both are phasal complements. In section 3.4, I further show that certain aspectual mismatches are correctly precluded under the phase-governed approach. In section 3.5, I discuss the behavior of superlexical perfective in VP-ellipsis under aspectual mismatches. In section 3.6, I illustrate some open-ended questions. Section 3.7 concludes this Chapter.

3.1 Stjepanović's (1997): VP-ellipsis in Serbian and finiteness discrepancies

Contrary to what has been claimed in Chapter 2, in her discussion of VP-ellipsis in Serbian, Stjepanović (1997) claims that VP-ellipsis is sensitive to finiteness. In particular, while non-finite VPs are licit antecedents of elided non-finite VPs, as in (5), Stjepanović claims that finite antecedents are not as permissive − with a finite VP antecedent, deletion of non-finite VPs, either participial, as in (6a) or infinitival, as in (6b), is not possible.

(5) a. Petar je već pobedio Mariju, ali Ivana i Marko još nisu
Petar is already win.part. Marija, but Ivana and Marko still not.are
~~pobedili Mariju~~.
win.part. Marija
'Petar has defeated Marija, but Ivana and Marko haven't yet (defeated Marija).'

b. Petar je pobedio Mariju, a Ivana nikad neće ~~pobediti Mariju~~.
Petar is win.part. Marija but Ivana never not.will win.inf. Marija
'Petar has defeated Marija, but Ivana never will (defeat Marija).'

c. Petar će pobediti Mariju, a Ivana neće ~~pobediti Mariju~~.
Petar will win.inf. Marija, but Ivana won't win.inf. Marija
'Petar will defeat Marija, although Ivana won't (defeat Marija).'

d. Petar će pobediti Mariju, iako Ivana nije ~~pobedila Mariju~~.
Petar will win.inf. Marija although Ivana not.is win.part. Marija
'Petar will defeat Marija, although Ivana hasn't (defeated Marija).'
(Stjepanović 1997:300)

(6) a. *Ivan čita knjigu, a Petar nije ~~čitao knjigu~~.

Ivan reads book but Petar isn't read.part. book

'Ivan is reading the book, but Petar hasn't (read the book). '

b. *Ivan čita knjigu, a Petar neće ~~čitati knjigu~~.

Ivan reads book, but Petar won't read.inf. book

'Ivan is reading the book, but Petar won't (read the book).'

Building on Lasnik's (1995) approach to verbal morphology according to which not all verbs in a language enter the derivation fully inflected (contra Chomsky (1993); cf. Chapter 2.7 for the discussion of ellipsis in English), Stjepanović argues for the following: 1) Only finite forms enter the derivation fully inflected in Serbian, raising to T and checking their [Tense] features (following Bošković 1995a, 1997, 2001). In other words, their inflectional material is featural. 2) Non-finite forms, despite raising overtly to Aux to check strong [Aux] features, are drawn from the lexicon bare and their inflectional part is introduced into the structure as an affix; this option is available under Lasnik's approach (in particular, Stjepanović argues that bare forms of participles and infinitives 'pick up' a syntactically independent affix in AgrP on their way to AuxP). Finally, she assumes that VP-ellipsis requires formal identity of the antecedent and the deleted VP in terms of features, but crucially not in terms of affixes. The ellipsis of a non-finite target with a finite antecedent is then precluded due to a featural mismatch: finite antecedents enter the derivation inflected and contain the features which are absent in non-finite targets. Since for Stjepanović the difference in affixal inflections is irrelevant for VP-ellipsis − matching in affixes is not required – then there is no requirement for strict matching between non-finite forms, explaining why (5b) and (5d) are felicitous.

As already indicated in (1)-(4) and argued for in Chapter 2, on closer scrutiny, it turns out that the discrepancies in finiteness are not really there, i.e. VP-ellipsis in Serbian is not sensitive to it. In section 3.1.1, I show that, under aspectual matching between the antecedent and the target, distribution of finite and non-finite antecedents in VP-ellipsis is problematic only with one type of imperfectives (and only with participial targets). In section 3.2, I show that VP-ellipsis is not permitted with certain aspectual mismatches between the antecedent and the target, in most cases, regardless of the finiteness of the antecedent. Thus, I argue that Stjepanović's claim regarding finiteness-sensitivity of VP-ellipsis in Serbian cannot be mantained.

3.1.1 Empirical problems for Stjepanović's approach

Stjepanović's analysis successfully captures the discrepancy between (5) and (6). However, if we take more data into consideration, we observe that: 1) VP-ellipsis is not as restricted with finite antecedents as it appears to be given the data she discussed, 2) the properties of the target VP also affect the availability of VP-ellipsis.

First, in the ungrammatical examples in (6), where the antecedent and the target differ in terms of finiteness, there is an additional mismatch between the two VPs – the polarity mismatch; only the infinitival VP is negated, as repeated in (7a). However, such examples become grammatical once polarity is controled for, i.e. if both finite and infinitival VP are either affirmative, as in (7b), or are negated, as in (7c). These examples are problematic for Stjepanović since, despite the polarity match, there is still no featural identity between a finite and non-finite verb, and the VP

ellipsis in (7b) and (7c) is incorrectly predicted to be infelicitous under Stjepanović's approach.[47,48]

[47] With a negation mismatch, I provide only the examples where the target is negated. In the examples in which the antecedent is negated, the non-negated clitic auxiliaries (e.g. *će* 'will' or *je* 'is') in the second conjunct cannot be stranded − only the long forms can be used. This can be explained in the following way: given the mismatch in polarity between the two conjuncts, we need to capture the contrast by emphasizing the auxiliary in the second conjunct, which is impossible if a clitic is used; hence a clitic is not permitted in this context (Note, for that matter, that in English, a weak auxiliary is not permitted before an ellipsis site (Kaisse 1983, Lobeck 1995, Kim 2006, *i.a.*)). If we opt for the long form instead, only the long form of the auxiliary *je* 'be' carries the meaning that corresponds to the meaning of the clitic; the long form of the clitic *će* 'will' corresponds to the meaning of the verb 'want'. In other words, *će* does not retain the same meaning. For that reason, under the polarity mismatch, I provide only the examples where the target is negated.

[48] Contrasts in (7) might be taken to suggest that the polarity is specified on the verb, so there needs to be a match in polarity between the antecedent and the target (cf. Slovak, where negation is affixed to the participle in Aux + participle combination (see Rivero 1991); see also Bošković (2009) for a possibility of having an uninterpretable Neg feature on negation in Serbian, which in turn might open up a possibility of having an interpretable Neg feature on the verb in (7)). However, despite the match in polarity, examples in (i) below are still ungramatical. Thus, identity in terms of polarity (i(b,c)) does not improve examples with a participal VP target – VP ellipsis remains ungrammatical. On the other hand, the examples with a participial antecedent and an infinitival target in (5) above, which allow mismatches in non-finite forms, also display a mismatch in polarity, and, still, VP-ellipsis is felicitous. Thus, negation does not block ellipsis and the polarity mismatch does not affect it. Rather, it needs to be established why participial targets behave exceptionally. I leave this question open for further research, but see section 3.6 for some ideas.

(i) a. *Ivan čita knjigu, a Petar nije ~~čitao knjigu~~.
Ivan reads book, but Petar not.is read.part. book
'Ivan is reading the book, but Petar hasn't been (reading the book).'

b. *Ivan čita knjigu, a i Petar je ~~čitao knjigu~~.
Ivan reads book, and too Petar is read.part. book
'Ivan is reading the book, and Petar has been (reading the book) too.'

c. *Ivan ne čita knjigu, a ni Petar nije ~~čitao knjigu~~.
Ivan not reads book, and nor Petar not.is read.part. book
'Ivan isn't reading the book, and Petar hasn't been (reading the book) either.'

(7) a. *Ivan čita knjigu, a Petar neće ~~čitati knjigu~~.

Ivan reads book, but Petar not.will read.inf book

'Ivan is reading the book, but Petar won't be (reading the book).'

b. Ivan čita knjigu, a i Petar će ~~čitati knjigu~~.

Ivan reads book, and too Petar will read.inf book

'Ivan is reading a book, and Petar will be (reading the book) too.'

c. Ivan ne čita knjigu, a ni Petar neće ~~čitati knjigu~~.

Ivan not reads book, and nor Petar won't read.inf book

'Ivan isn't reading a book, and Petar won't be (reading the book) either.'

Second, when the antecedent is not morphological present tense but Aorist, a so-called aspectual tense which denotes completed and/or punctual events, and which is also a finite form (traditionally), non-finite VP-ellipsis becomes available. As already shown in Chapter 2.8 and repeated here, with Aorist antecedents, both the infinitival in (8) and the participial VP in (9) can be elided. Furthermore, while the examples in (a) and (b) display matching in polarity between the antecedent and the target, the examples in (c) show that a polarity mismatch does not affect VP ellipsis here – when Aorist is in the antecedent VP, a non-finite VP is elidable, regardless of the polarity specification of the target.

(8) a. Oni ne pobediše Mariju, a ni Petar neće ~~pobediti Mariju~~.

they not win.aor. Marija and nor Petar not.will win.inf. Marija

'They haven't defeated Marija, and Petar won't (defeat Marija) either.'

b. Oni pobediše Mariju, a i Petar će ~~pobediti Mariju~~.

they win.aor. Marija and too Petar will win.inf. Marija

'They have defeated Marija, and Petar will (defeat Marija) too.'

c. Oni pobediše Mariju, ali Petar neće ~~pobediti Mariju~~.

they win.aor. Marija but Petar not.will win.inf. Marija

'They have defeated Marija, but Petar won't (defeat Marija).'

(9) a. Oni ne pobediše Mariju, a ni Petar još nije ~~pobedio Mariju~~.

they not win.aor. Marija and not Petar still not.is win.part Marija

'They haven't defeated Marija, and Petar still hasn't (defeated Marija) either.'

b. Oni pobediše Mariju, a i Petar je ~~pobedio Mariju~~.

they win.aor. Marija and too Petar is win.part Marija

'They have defeated Marija, and Petar has (defeated Marija) too.'

c. Oni pobediše Mariju, ali Petar još nije ~~pobedio Mariju~~.

they won-aor. Marija but Petar still not.is win.part Marija

'They have defeated Marija, but Petar still hasn't (defeated Marija).'

Furthermore, one peculiarity of Aorist is that it is derived almost exclusively from perfective verbs (as will be discussed in detail in Chapter 4). The perfective value of Aorist and the availiability of finiteness mismatches in (8) and (9) contrast with the imperfective value of the present tense antecedents in the problematic examples in (6), repated below in (10a). Crucially, if

present tense antecedents are specified for perfective aspect, the relevant sentences are fine, as in (10b) (the same examples have also been discussed in Chapter 2).[49]

(10) a. *Ivan čita knjigu, a Petar nikad nije ~~čitao knjigu.~~
Ivan reads.**impf**. book, but Petar never isn't read.**impf.**part. book
'Ivan is reading the book, but Petar never has (read the book).'

b. ?Ivan (još i) pobedi Mariju, ali Petar nikad nije ~~pobedio Mariju~~.
Ivan (still and) wins.**pf**. Marija but Petar never isn't win.**pf.**part. Marija
'Ivan defeats Marija from time to time, but Petar never has (defeated Marija).'

It should be clear by now that aspect affects ellipsis, but Stjepanović's approach does not make any predictions about it. The role of aspect will be even more evident in section 3.2, where examples will be presented which show that aspectual mismatches between the antecedent and the target serve as a clear indication that VP-ellipsis in Serbian is not finiteness-, but aspect-sensitive.

3.1.2 The nature of aspect in Serbian

Before I provide an additional example which is problematic for Stjepanović (1997), a note is in order regarding the nature of aspect. As discussed in Chapter 1, in terms of semantic

[49] The pefective cannot have the interpretation where Ivan wins at the moment of speech; rather it is the usual state of affairs that Ivan wins whenever they compete, the interpretation usually associated with imperfectives (restrictions on the interpretation of perfective are discussed in more detail in Chapter 4.3.1). Note that nothing would change if *Petar* in the second clause were object instead of subject, i.e. if we were dealing with pseudo-gapping and not VP-ellipsis. The same holds for the Aorist examples in (8) and (9).

contribution, there are two types of aspect: a) lexical, situation aspect or *Aktionsart* (henceforth lexical aspect), which specifies the type of the situation denoted by the predicate, such as activities, states, achievements, accomplishments, and semalfactives, distinguishes between telic and atelic predicates, i.e. between predicates that have and those that do not have an inherent endpoint, affects durativity and dynamicity of the predicate, interacts with the thematic structure of the predicate, and contributes idiosyncratic meanings; b) grammatical or viewpoint aspect (henceforth viewpoint aspect), which refers to viewing the situation from the outside as either bounded, i.e. seeing its beginning and end, or as unbounded, with respect to a time interval. Structurally, it has been argued that lexical aspect is within the VP (Travis 2010, cf. Marantz 2001, 2007, *i.a.*), whereas viewpoint aspect is in AspP (von Stechow 2002, Pancheva 2003, Pancheva and von Stechow 2004, Travis 2010, Wurmbrand 2014, *i.a.*) (see also the discussion in Chapter 1). I propose that there are both lexical and viewpoint aspect in Serbian, and that those are different both in terms of syntax (VP-internal vs. VP-external aspect, cf. Travis 2010) and in terms of semantics (telicity vs. boundedness, cf. Borik 2002, Borik and Reinhart 2004, Travis 2010, *i.a.*).

Regarding its manifestation in Serbian, aspect is always specified on the root, as in (11).

(11)	bac**i**ti	bac**a**ti
	throw.**pf**.inf.	throw.**impf**.inf

In addition, there are derived forms. In particular, perfective verbs in (10b) have an imperfective counterpart which is derived by adding a suffix *–va* to the perfective stem, as in (12).

(12) pobediti pobedji-va$_{\mathbf{IMPF}}$-ti

win.**pf.**inf. win.**impf.**inf.

I will follow the literature and refer to the imperfective in (12) as secondary imperfective (see also Milićević 2004 for Serbian, and Isačenko 1960, Forsyth 1970, Zucchi 1999, Filip 2000, Ramchand 2004, Borer 2005, *i.a.* for illustrations and accounts of secondary imperfective in other Slavic languages). Secondary imperfective is different from root imperfective, since in the case of the latter, the imperfective value is already specified in the infinitival form, as in (11). Secondary imperfective is in the domain of viewpoint aspect and root imperfective is in the domain of lexical aspect (this will become relevant in later discussion).

Armed with the above distinction between the two types of imperfective, let us consider their role in the availability of VP-ellipsis. If instead of root imperfectives from Stjepanović's problematic examples, as in (13a), secondary imperfectives serve as antecedents and targets, as in (13b), VP-ellipsis of a non-finite target becomes available.

(13) a. *Ivan čita knjigu, a Petar još nije ~~čitao knjigu~~.

Ivan reads.**impf**. book, but Petar still isn't read.**impf**.part. book

'Ivan is reading the book and Petar still hasn't (read the book).'

b. Ivan pobeđuje Mariju, a Petar još nije ~~pobeđivao Mariju.~~

Ivan wins.**impf**. Marija but Petar still not.is win.**impf.**part. Marija

'Ivan keeps defeating Marija, but Petar still hasn't (defeated Marija).'

What the examples in (7)-(13) show is that the contrast in the availability of VP-ellipsis with finite and non-finite antecedents is not as big as initially observed: there is a difference only with root imperfective finite antecedents, in particular, when participles serve as targets (see section 3.6).[50] In addition, all of the examples above contained antecedent and target VPs that matched in aspectual specifications. In the next section, I explore to which extent an aspectual mismatch between the antecedent and the target VP affects the availability of VP-ellipsis (see also Todorović 2014a, 2014b). It will be shown that aspectual mismatches are the crucial factor in rulling out VP-ellipsis due to mismatches between the antecedent and the target.

3.2 Aspectual mismatches under VP-ellipsis

I now turn to VP-ellipsis under aspectual mismatches, i.e. VP-ellipsis where the antecedent and the target are not specified for the same aspect. Since there is more than one way to obtain perfective or imperfective aspectual specification (as already shown for imperfective in the previous section), I take that verbs are matching aspectually only if they contain exactly the same aspectual specifications (which will become clearer immediately).

[50] Recall that, in the case of a target infinitival VP, the problem can be ameliorated with a polarity match.

How do we force the antecedent and the elided VP to mismatch in aspect, i.e. how do we know that what we are eliding is necessarily imperfective or perfective? We can do it by adding an adverbial in the second conjunct that allows only for one aspectual specification. For instance, in (14), the adverbial in the second clause *za pet minuta* 'in five minutes'/ *jedanput* 'once' is compatible only with perfective aspect; hence, the elided VP can only be the perfective (more precisely, the root perfective). The antecedent, however, is a root imperfective. As (14) shows, ellipsis is ungrammatical − it is only allowed if there is a match in aspect. Crucially, despite the match in finiteness, the example in (14a) is ungrammatical, as it is with a finite antecedent (14b) – no difference arises.

(14) a. *Petar je satima bacao novine, a Jovan je za pet minuta
Petar is hours throw.**impf.**part. newspaper and Jovan is for five minutes
~~bacio novine~~.
throw.**pf.**part. newspaper
'Petar was throwing the newspaper (in the garbage) for hours, and Jovan has (thrown the newspaper (in the garbage)) in five minutes.'

b. *Petar petkom baca novine, a Jovan je jedanput
Petar Friday throws.**impf.** newspaper and Jovan is one.time
~~bacio novine.~~
throw.**pf**.part. newspaper
'Petar throws the newspaper (in the garbage) every Friday, and Jovan has (thrown the newspaper (in the garbage)) once.'

Interestingly, the lack of aspectual match does not necessarily mean that VP-ellipsis is excluded. For instance, with the same type of target, i.e. root perfective, and now with a secondary imperfective antecedent, VP ellipsis is allowed with both non-finite and finite antecedents, as shown in (15).

(15) a. Petar je uvek pobeđivao Mariju, a Marko je samo jedanput
Petar is always win.**impf.**part. Marija and Marko is only one.time
~~pobedio Mariju~~.
won**.pf.**part. Marija
'Petar has always been defeating Marija, while Marko has (defeated Marija) only once.'

b. Petar uvek pobeđuje Mariju, a Marko je samo jedanput
Petar always wins.**impf.** Marija and Marko is only one.time
~~pobedio Mariju~~.
win**.pf.**part. Marija
'Petar is always defeating Marija, while Marko has (defeated Marija) only once.'

Before providing a summary of the available aspectual mismatches, let us take a quick detour into perfective marking in Serbian, and complete the picture of aspectual specifications. Besides perfective already being specified in the root, Serbian also makes use of a variety of perfective prefixes.[51] Milićević (2004) provides a number of syntactic and semantic diagnostics to argue that perfective prefixes can be classified into two groups: lexical and superlexical prefixes. She

[51] Klajn (2002) lists 17 prefixes.

argues that lexical prefixes change lexical properties of the verb stem, affecting their argument structure. For instance, while the root perfective *skočiti* 'to jump' in (16a) does not require any arguments, it does require one when we add the prefix *iz-* in (16b), specifally, it requires a PP argument denoting location. In that respect, lexical prefixes like *iz-* modify the lexical aspectual properties of the event, i.e. they can be classified as markers of lexical aspect.[52]

(16) a. Skočio je.
jump.**pf**.part.masc.sg. is
'He has jumped.'

b. Iskočio je kroz prozor.
out.jumped-**pf**.part.masc.sg. is through window
'He jumped out of the window.'
(Milićević 2004:289)

Milićević also argues that not all prefixes are the same: in (17), the *iz-* that is closer to the stem makes the same contribution as the prefix in (16b), whereas the word initial *iz-* in (17) only marks the completion of the event, without contributing any lexical change. The former is lexical, while the latter is classified as superlexical.

[52] Note that Milićević argues that all perfective prefixes, including lexical prefixes, also contribute the information that the event is bounded, i.e. the viewpoint aspect information.

(17) Iz- po- iz- bacivao je sve flaše iz kuhinje.[53]

cmpl-dstr-out- throw.**pf.**part.masc.sing. is all bottles from kitchen

'He threw out all of the bottles from the kitchen.'

(Milićević 2004:293)

Given the contribution that the superlexical perfective makes, i.e. affecting the boundedness of the event, it can preliminarily be classified as viewpoint aspect. It is then not surprising that in Milićević's analysis superlexical prefixes are structurally higher than the lexical ones, if the latter is lexical aspect, argued to be within the VP, while viewpoint aspect is usually argued to be in AspP (cf. section 3.1.2). I return to the precise location and nature of superlexical prefixes in more detail in section 3.5.

We finally have the full aspectual inventory with five different nuances at hand: root perfective, lexically derived perfective (henceforth derived perfective), superlexically derived perfective, root imperfective, and secondary imperfective.

Table 1 below displays the availability of ellipsis under all five possible aspectual combinations of the antecedent (both finite and non-finite) and the non-finite target. The focus in sections 3.3 and 3.4 will be placed on the mismatches in grey boxes. As noted above, I will be providing only examples with participial targets and participial and finite antecedents, respectively; infinitival targets will be provided only when the availability of VP-ellipsis is affected by the choice of the participial or infinitival target; otherwise, the two types of targets behave in the same way. A full paradigm of examples of aspectual mismatches is given in the Appendix.

[53] 'dstr' with superlexical perfective prefix stands for distributive. It is also a superlexical prefix.

Target	Secondary imperfective	Derived perfective	Root perfective	Root imperfective	Superlexical perfective
Antecedent					
Root imperfective	*	*	*	* (with part. targets)	*
Root perfective	√	*	√	√ (with non-finite antec.)	*
Secondary imperfective	√	√	√	*	*
Derived perfective	√	√	*	*	*
Superlexical perfective	*	*	*	*	√

Table 1: The availability of ellipsis of non-finite targets affected by aspect

3.3 Deducing aspectual mismatches

Despite the small number of aspectual mismatches that allow for VP-ellipsis, there are still a few patterns that might shed light on the structural position of different aspectual elements, in other words, tell us something about the division of lexical and viewpoint aspect of the verbal domain. I will start by presenting patterns in the shaded columns from Table 1 and examine whether they can provide clues for other mismatches.

3.3.1 Secondary imperfective – root imperfective opposition and interaction with perfective aspect

Let us consider the Table 1 in more detail. What we see is that all the permitted aspectual mismatches have a secondary imperfective, either as the antecedent or the target. This is in sharp contast with the rigidity of root imperfectives: root imperfective cannot combine with any aspectually different target.[54] In addition, finite root imperfective antecedents disallow ellipsis of the target even with the same aspectual specification (in section 3.6, I, however, show that this is only an apparent issue). The immediate question we can ask then is why we observe contrast between the two types of imperfectives.

First, I adopt some more or less standard assumptions: 1) VP-deletion requires featural identity between the antecedent and the target, along the lines of Merchant (2008), *i.a*, as discussed in Chapter 2. 2) Structure is marked for ellipsis in the syntax, hence the identity between the antecedent and the target must also be determined in the syntax (Chomsky 2001, Merchant 2001, 2008, Heck and Müller 2003, Müller 2011, Bošković 2014, *i.a.*). In addition, following Lasnik's (1995) and Stjepanović's (1997) idea that not all verbal forms enter the structure inflected (contra Chomsky 1993), or vice versa, that not all of them enter the structure bare (contra Chomsky 1957), we might ask two questions: 1) What happens with aspectual properties, are those also specified in the lexicon or not? 2) If aspect is featurally represented, are all aspectual specifications subject to a featural identity requirement? These questions are relevant for deciphering different patternings of the two types of imperfectives.

[54] The only configuration where ellipsis with root imperfectives is allowed despite the mismatch is when a root imperfective is a non-finite antecedent to a root perfective target.

Let us first look at root imperfectives. As mentioned earlier in the discussion, lexical aspect is involved in determining the thematic structure. It also interacts with a predicate's telicity and its situation type. The root imperfective in (18a) denotes an event without a natural endpoint, i.e. it is an atelic event. Atelic events can be either activities or states, in this particular case, an activity. A minimally different derived perfective in (18b), *otrčati* 'to run entirely', introduces a natural endpoint, i.e. it is telic; as such it is not able to denote activity, since activities can only be atelic – rather, it denotes an accomplishment. What we see is that the aspectual specification of the verbs in (18a) and (18b) is directly related to the lexical aspect information.[55] Lexical aspect characteristics are also evident with a root perfective in (18c), which denotes a telic event, more specifically, an achievement.

(18) a. Jovan je trčao.

Jovan is run.**impf.**part.

'Jovan has run.'

b. Jovan je otrčao maraton.

Jovan is out.run-**pf.**part. marathon

'Jovan finished a marathon.'

c. Jovan je tom prilikom pobedio protivnika.

Jovan is that occasion win.**pf.**part rival

'Jovan defeated his rival then.'

(19) pobediti – pobeđi-<u>va(**impf.**)</u>-ti

defeat.**pf.**inf defeat.**impf**.inf.

[55] This is not to say that imperfective verbs are exclusively atelic, e.g. *jesti jabuku* 'to eat an apple' has a natural endpoint, despite being imperfective. Perfective verbs, on the other hand, are exclusively telic in Serbian.

On the other hand, when secondary imperfective is compared to a minimally different perfective (19), the telicity of the event and the type of the situation remain the same. Compare the perfective in (18c) and the secondary imperfective in (20). In both cases, the event is telic, i.e. it has a natural endpoint; the final point of defeating somebody is the endpoint. Also, both events are achievements. What makes them different is that, in contrast to perfective, secondary imperfective is unbounded, i.e. it does not say anything about the completion of the event at a particular point in time.

(20) Jovan je u kontinuitetu pobedjivao protivnika.
Jovan is in continuity win.**impf.**part. rival
'Jovan was continuously defeating his rival.'

This interaction with the time component is what defines viewpoint aspect. Given that secondary imperfective does not interact with telicity or the type of the situation involved, rather, it affects boundedness, I argue that it denotes viewpoint aspect (see also Milićević 2004; see Travis 2010 for an elaborate discussion of syntactic and semantic differences between situation and viewpoint aspect across languages). On the other hand, root imperfectives, along with root perfectives and derived perfectives, are in the domain of lexical aspect.

Note further that lexical aspect is introduced prior to viewpoint aspect in the structure, as specified below. Thus, if anything enters the derivation specified for aspect, those are root imperfectives and root perfectives. In other words, I assume that verbs enter the derivation featurally specified for either perfective or imperfective aspect. Derived perfectives are also lexical, but this particular aspectual information is introduced on the top of VPs containing root

perfectives during the derivation (to be specified). Given the viewpoint nature of secondary imperfective, I propose that it is introduced in AspP in Serbian (see e.g. Svenonius 2004 for Slavic languages).[56]

Let us look again at the difference between root and secondary imperfective. Given the featural identity requirement, and assuming that a verb enters the derivation already specified for either imperfective or perfective aspect, the target of an elided root imperfective antecedent would also need to be specified for the imperfective within the VP. This explains why root imperfective cannot be the antecedent of elided secondary imperfective VPs, as in (21).

(21) a. *Petar je petkom bacao novine, a Jovan je sredom
Petar is Friday throw.**impf.**part newspaper and Jovan is Wednesday
~~izbacivao novine.~~
out.throw-**impf.**part newspaper
'Petar was throwing the newspaper (in the garbage) on Fridays, and Jovan was (throwing the newspaper out) on Wednesdays.'

b. *Petar petkom baca novine, a Jovan je sredom
Petar Friday throws.**impf.** newspaper and Jovan is Wednesday
~~izbacivao novine.~~
out.throw-**impf.**part newspaper
'Petar throws the newspaper (in the garbage) on Fridays, and Jovan was (throwing the newspaper out) on Wednesdays.'

[56] I return to the status of supelexical perfective in section 3.5.

In order for secondary imperfectives to be felicitous targets, the identity would need to be established at the level of VP, the portion of the structure that is elided. But this is not possible − secondary imperfectives never start as imperfective VPs (22). So, when they are targets to root imperfective antecedents, a mismatch arises at the level of VP, precluding the ellipsis. This further predicts that any VP that does not start as an imperfective VP is predicted not to be elidable with root imperfective antecedents, which is borne out. [57,58]

---

[57] Although the focus in this Chapter is placed on perfectives derived from root perfective VPs, note that derived perfectives can also be composed by prefixation of root imperfectives (cf. (18a), (18b)); derived perfective information would, as with root perfectives, be introduced on the top of VPs containing root imperfectives during the derivation (cf. (25b)). This should then be the environment in which root imperfective allows an aspectual mismatch in VP-ellipsis: both root imperfective and derived perfective start out as root imperfective VPs. However, the analysis outlined in this Chapter predicts that VP-ellipsis under the mismatch in (i) should be precluded, for the same reason that derived perfectives do not allow mismatches with root perfectives out of which they are derived – there is no matching in the phasal status between the target and the antecedent, an issue discussed in detail below in section 3.3. The prediction is borne out, as shown in (i) (the same holds when the order of the antecedent and the target in (i) is reversed).

(i) a. *Petar je ceo dan trčao maraton, a Jovan je za pola dana
Petar is whole day run.**impf.**part. marathon and Jovan is for half day
~~otrčao maraton~~.
out.run-**pf**.part marathon
'Petar was running a marathon the entire day, and Jovan has (run the entire marathon) for half a day.'

b. *Petar svake godine trči maraton, a Jovan je jedanput
Petar every year runs.**impf.** marathon and Jovan is once
~~otrčao maraton~~.
out.run-**pf**.part marathon
'Petar runs a marathon every year, and Jovan has (run the entire marathon) only once.'

[58] One potential problem is the availability of ellipsis of root perfectives with non-finite root imperfective antecedents. If we assume that VPs with an inherently specified imperfective and perfective aspect, respectively, should not be able to combine for VP-ellipsis, due to an aspectual mismatch, it is not clear why the abovementioned configuration allows for ellipsis. A possible explanation for the behavior of root imperfective antecedents might be the following: suppose that non-finite root imperfective verbs (in particular, participles) enter the derivation specified for a feature F (for some relevant discussion, see section 3.6). Assuming featural identity requirement, one possibility is that this feature is also present with non-finite root perfectives that serve as a target. Another possibility is that root perfectives do not contain the feature F, in which case this feature would need to occur with root imperfectives after the point at which the featural identity between the antecedent and the target is evaluated. This should open up a possibility of being featurally identical to root perfectives, and, consequently allowing for ellipsis. What would, however, need to hold is that the aspectual specification, if featural in nature, is not specified on the verb with both non-finite imperfectives and with root imperfectives, but introduced at some higher level, potentially at the VP-level, i.e. a higher VP-shell level. Featural identity would, crucially, need to be evaluated at the level where the aspect is not yet introduced, presumably at the V-level (the lowest level).

Regarding the lack of ellipsis of non-finite imperfectives under mismatches with other aspectual specifications (with derived perfectives (created out of root perfective VPs), superlexically derived perfectives and secondary imperfectives), as well as their inability to serve as antecedents under those mismatches, this could be accounted for

(22) bacati *bacavati

throw-inf.**impf**.

Note that root imperfectives, with the congifuration as in (23), are so intolerant as antecedents that even the ellipsis of a root imperfective VP is precluded, which corresponds to the configuration discussed by Stjepanović and which motivated her observation that VP-ellipsis is sensitive to finiteness in Serbian. While at a first glance it seems that this intolerance of imperfective is also a problem for the approach which posits the aspectual feature as the core of featural mismatches, the intolerance of imperfective under aspectual matching is in fact rather narrow in scope − the issue arises only with participial targets. I return to a possible solution to this problem in section 3.6.

(23) $[_{CP}\ [_{AspP}\ [_{VP}\ V_{\{impf.\}}$

Focusing now on secondary imperfectives, a bit more needs to be said about its VP aspectual specification, provided that secondary imperfective specification is introduced into the structure above the VP level. The example in (24a) shows that the stem to which the suffix is added is perfective, more precisely, root perfective, while (24b) shows that secondary imperfective suffixes can also be added to derived perfectives. As indicated above, root perfectives come with a perfective featurally specified on the verb, as in (25a), while I suggest that derived perfectives

in the following way: at the level of the evaluation of featural identity, the aspectual specification has already been introduced into the structure, making non-finite imperfectives featurally incompatible with either derived perfectives, supelexically derived perfectives or secondary imperfectives, which are all specified for perfective within the VP. Throughout this Chapter, I will keep specifying the aspectual feature on the verb, leaving open for further research the possibility of introducing this feature above the initial V-level.

introduce an additional VP layer, as in (25b). Secondary imperfective is contained in AspP, combining with either a root perfective VP, as in (25c), or with a derived perfective VP, as in (25d).[59]

(24) a. pobediti pobeđi<u>va</u>ti

win.**pf.**inf. win.**impf.inf.**

'to win'

b. izoštriti izoštra<u>va</u>ti

out.sharpen-**pf.**inf. out.sharpen-**impf.**inf.

'to sharpen up'

(25) a. $[_{CP}\ [_{AspP}\ [_{VP}\ V_{\{pf.\}}$

b. $[_{CP}\ [_{AspP}\ [_{VP2}\ \text{der.pf}\ [_{VP1}\ V_{\{pf.\}}$

c. $[_{CP}\ [_{AspP}\ \text{-va}\ [_{VP}\ V_{\{pf.\}}$

d. $[_{CP}\ [_{AspP}\ \text{-va}\ [_{VP2}\ \text{der.pf}\ [_{VP1}\ V_{\{pf.\}}$

One further motivation for secondary imperfective being located in AspP comes from the fact that, when introduced into the structure, it affects the established temporal relations. For instance, morphological present tense with the Utterance time interpretation is incompatible with a perfective aspect, as in (26) (see also Chapter 4). However, once secondary imperfective is

[59] Note that AspP in (25a-c) lacks overt morphological material; under the approach argued for in the thesis (and elaborated in Chapter 5), whereby the lack of overt temporal morphology correlates with the absence of TP in a language, one could argue that AspP is also not present in the structure unless morphologically motivated (see Bošković 2014 for English). I, however, argue that AspP is needed in the structure because it carries information about viewpoint aspect, which is crucial in establishing temporal information (one possibility is that AspP is obligatorily present only in no-TP languages due to the lack of TP). The viewpoint aspect in the cases of root and derived perfectives is perfective, i.e. bounded, and in the case of imperfectives it is imperfective, i.e. unbounded (see Chapter 4 for details). In what follows, I am omitting AspP with root imperfectives, root perfective and derived perfectives for ease of exposition, introducing it into the structure only when it is relevant for the discussion at hand.

added to the structure, the example becomes grammatical, as in (27). Todorović (2013, 2015b) shows that the availability of morphological present with this interpetation is dependent on the interaction of viewpoint aspect with a higher domain in the sentence. Given that secondary imperfective diplays this viewpoint property, and since viewpoint aspect is standardly assumed to be located in AspP, this provides further motivation for its structural location in AspP.

(26) *Oni prepričaju knjigu Marku.
they retell.**pf**.3.pl.pres book Marko
'They have finished retelling the book to Marko (just now).'

(27) Oni prepričavaju knjigu Marku.
they retell.**impf**.3.pl.pres book Marko
'They are retelling the book to Marko.'

The aspectual composition of secondary imperfectives makes several predictions about its interaction in VP-ellipsis. As was already noted above, ellipsis is unavailable with root imperfective antecedents, because the VPs of the two imperfectives will not match − in the VP which serves as a stem of a secondary imperfective, the verb already enters the structure specified for perfective. This clashes with the root imperfective verb specification in the antecedent, explaning the ungrammaticality of (21) above.[60]

[60] Under the reverse pattern, i.e. secondary imperfectives antecedents and root imperfectives targets, the ellipsis is also predicted to be precluded, as in (i) and (ii). Secondary imperfective not only introduces more structure than a root imperfective target, i.e. perfective VP on top of which secondary imperfective is added, but its perfective stem also introduces additional aspectual information (with both root and derived perfective stems) and additional lexical information (with derived perfective stems); the issue of recoverability of the target, thus, might arise.

Furthermore, given that the clash that arises between root imperfectives and secondary imperfectives is at the level of VP, such a clash is predicted not to arise with secondary imperfective antecedents of root perfectives from which they are derived, as in (28); the target VP is structurally composed in the same way as the antecedent. The prediction is borne out and VP-ellipsis is correctly ruled in, as in (29).

(28)

Antecedent	Target
[$_{AspP}$ -va [$_{VP}$ root pf.	~~[$_{VP}$ root pf.~~

(29) a. Aca je redovno pobeđivao Anu, a Iva je jedanput ~~pobedio Anu~~.

Aca is regularly win.**impf.**part. Ana and Iva is once win.**pf.**part. Ana

'Aca has always been defeating Ana, while Iva has (defeated Ana) once.'

b. Aca redovno pobeđuje Anu, a Iva je jedanput ~~pobedio Anu~~.

Aca regularly wins.**impf.** Ana and Iva is once win.**pf.**part. Ana

'Aca is always defeating Ana, while Iva has (defeated Ana) once.'

(i) *Petar je petkom izbacivao novine, a Jovan je sredom
Petar is Friday out.throw-**impf.**part. newspaper and Jovan is Wednesday
~~bacao novine~~.
throw.**impf.**part. newspaper
'Petar was throwing the newspaper out on Fridays, and Jovan was (throwing it (in the garbage)) on Wednesdays.'

(ii) *Petar petkom izbacuje novine, a Jovan je sredom ~~bacao novine.~~
Petar Friday out.throws-**impf.** newspaper and Jovan is Wednesday throw.**impf.**part. newspaper
'Petar throws the newspaper out on Fridays, and Jovan was (throwing it (in the garbage)) on Wednesdays.'

Similarly, we predict secondary imperfective antecedents to be felicitous antecedents of derived perfectives from which they are created, given the structure in (30); this prediction is also attested, as in (31).

(30)

Antecedent	Target
[$_{AspP}$ -va [$_{VP}$ derived pf. [$_{VP}$V root pf.	~~[$_{VP}$ derived pf. [$_{VP}$ root pf.~~

(31) a. Aca je satima izbacivao smeće, a Ana je za pola sata
Aca is hours out.throw-**impf**.part. trash and Ana is for half hour
~~izbacila smeće.~~
out.throw-**pf**.part. trash
'Aca was taking the trash out for hours, while Ana has (taken the trash out) in half an hour.'

b. Aca redovno izbacuje smeće, a Ana je jedanput ~~izbacila smeće.~~
Aca regularly out.throws-**impf**. trash and Ana is once out.throw-**pf**.part. trash
'Aca is regularly taking the trash out, while Ana has (taken the trash out) once.'

3.3.2 Structure outside of a matching structural antecedent: considering a potential semantic solution

Consider now imperfective antecedents derived from a lexical perfective stem, as in (32), which disallow ellipsis of a root perfective target. This is somewhat surprising, since there is a matching part of the antecedent, i.e. root perfective VP; yet the ellipsis is precluded, as in (33).

(32)

Antecedent	Target
[$_{AspP}$ -va [$_{VP}$ derived pf. [$_{VP}$V root pf.	~~[$_{VP}$ root pf.~~

(33) a. *Aca je satima izbacivao smeće, a Ana je za pola sata
Aca is hours out.throw-**impf**.part. trash and Ana is for half hour
~~bacila smeće~~.
throw.**pf**.part. trash
'Aca was taking the trash out for hours, while Ana has (thrown the trash) in half an hour.'

b. *Aca redovno izbacuje smeće, a Ana je jedanput ~~bacila smeće~~.
Aca regularly out.throws-**impf**. trash and Ana is once throw.**pf**.part. trash
'Aca is regularly taking the trash out, while Ana has throw the trash once.'

One straightforward explanation would be that, despite a matching part of the antecedent in the target, the antecedent VP is actually structurally richer, containing also derived perfective and

secondary imperfective aspectual information. Such a configuration is problematic because the lexical change introduced by derived perfective in the antecedent VP is not contained in the target; although the adverbial *za pola sata* 'in half an hour' in (33) indicates that the target can only be a perfective VP, it is impossible to indicate whether we are deleting a root perfective or a derived perfective VP. Importantly, what may be creating a problem here is not the target itself and it is also not the matching part of the antecedent and the target − the root perfective part of the antecedent, but rather the structure outside of it − the VP introducing the derived perfective.

For a similar reason, derived perfective cannot serve as an antecedent to root perfective target, as in (34). The structure in (34) indicates that the target is a proper subset of the antecedent. Since lexical perfective prefixes bring in an additional meaning, often also affecting the thematic structure, they are not semantically vacuous. In (35), due to the prefix *iz-*, the antecedent implies that the garbage will be thrown outside, whereas no such meaning is denoted by the target. This may also explain why the ellipsis is precluded: when added to the root perfective stem, a lexical perfective prefix changes the meaning of the entire verb, making it distinct from the target VP. Same as in (33), a change in the antecedent, more specifically, the part outside of what structurally strictly matches the target, would thus create a problem, rather than the target itself.

(34)

Antecedent	Target
[$_{VP}$ derived pf [$_{VP}$ V root pf.]]	~~[$_{VP}$ root pf.]~~

(35) a. *Aca je u petak izbacio smeće, a Ana je u sredu

Aca is in Friday out.throw-**pf**.part. trash and Ana is in Wednesday

~~bacila smeće.~~

throw.**pf**.part. trash

'Aca took the trash out on Friday, while Ana has (thrown the trash) on Wednesday.'

b. *Aca svakog petka izbaci smeće, a Ana je u sredu

Aca every Friday out.throws-**pf**. trash and Ana is in Wednesday

~~bacila smeće~~.

throw.**pf**.part. trash

'Aca takes the trash out every Friday, while Ana has (thrown the trash) on Wednesday.'

At this point, it seems tempting to attribute the above clashes to semantics, i.e. to claim that the ellipsis here is excluded due to the absence of information in the target that is otherwise present in the antecedent, though capturing this is not trivial, given that this additional information in the antecedent is located above what corresponds to the ellipsis site in the target. However, an interesting question arises how the lack of ellipsis in (33) and (35) can be excluded on syntactic grounds, if syntax is the level at which featural identity is determined. There are two potential instances of the lack of identity: 1) in terms of thematic structure, if a lexical prefix affects the existing thematic configurations, making it different from the root perfective in the target; 2) in terms of the shape of the lower perfective feature which could be affected by the addition of lexical prefixes to the structure, in which case the antecedent and the target would fail to be

identical at the level of root perfective.[61] The difference in features would also predict the ungrammaticality of the opposite mismatch, as in (36), since the antecedent VP would not be identical to the derived perfective target. The same issue would arise with the structure in (37) (counterpart of (32)). The prediction is borne out, as in (38), and (39), respectively.[62]

(36)

Antecedent	Target
[$_{VP}$ root pf.	~~[$_{VP}$ derived pf [$_{VP}$ V root pf.~~

(37)

Antecedent	Target
[$_{VP}$ root pf.	~~[$_{AspP}$ va [$_{VP}$ derived pf. [$_{VP}$V root pf.~~

[61] One potential way to implement this idea formally might be to assume feature valuation where, upon entering the structure, the higher perfective evaluates the lower perfective; this would correspond to the Reverse Agree approaches where an unvalued feature F on a head α is valued by a feature F on β, where α is c-commanded by β and there is no γ with a valued interpretable feature F such that γ commands α and is c-commanded by β. Wurmbrand (2012) also argues that feature valuation happens roughly within the same phase (for other implementations of Reverse Agree, see Neeleman and van de Koot 2002, von Stechow 2003, 2004, 2005, 2009, Baker 2008, Hicks 2009, Haegeman and Lohndal 2010, Bjorkman 2011, Grønn and von Stechow 2011, Merchant 2011, Zeijlstra 2012). Although this might be equally promising way of accounting for the lack of ellipsis, in what follows, I deduce the availability of ellipsis in a phase-governed approach.

[62] There is an additional problem that does not arise in the opposite configuration, since the target contains the lexical prefix in (38) and also secondary imperfective suffix in (39), which are not present in the antecedent. The examples in (38) and (39) thus seem to be ruled out independently of the issue under consideration in the text.

(38) a. *Aca je u petak bacio smeće, a Ana je u sredu

Aca is in Friday throw.**pf**.part. trash and Ana is in Wednesday

~~izbacila smeće~~.

out.throw.**pf.**part. trash

'Aca threw the trash on Friday, while Ana took the trash out on Wednesday.'

b. *Aca svakog petka baci smeće, a Ana je u sredu

Aca every Friday throws.**pf**. trash and Ana is in Wednesday

~~izbacila smeće.~~

out.throw.**pf**.part. trash

'Aca throws the trash every Friday, and Ana took the trash out on Wednesday.'

(39) a. *Aca je u petak bacio smeće, a Ana je celog semestra

Aca is in Friday throw.**pf**.part. trash and Ana is entire semester

~~izbacivala smeće.~~

out.throw.**impf.**part. trash

'Aca throw the trash on Friday, while Ana was (taking the trash out) the entire semester.'

b. *Aca ponekad baci smeće, a Ana je celog semestra

Aca sometimes throws.**pf**. trash and Ana is entire semester

~~izbacivala smeće~~.

out.throw.**impf.**part. trash

'Aca sometimes throws the trash, while Ana was (tooking the trash out) the entire semester.'

Suppose we still decide to pursue the semantic account, which, admittedly, can capture the above data. The problem still arises, though, with the availability of ellipsis with secondary imperfective antecedents in (28) and (30). The antecedents in these examples also introduce additional information not present in the target, as in (40). Moreover, it remains unexplained why secondary imperfectives can serve as targets of root perfective and derived perfective, as in (41).

(40)

Antecedent	Target
[$_{AspP}$ -va [$_{VP}$ root pf.]]	~~[$_{VP}$ root pf.~~
[$_{AspP}$ -va [$_{VP}$ derived pf. [$_{VP}$V root pf.]]]	~~[$_{VP}$ derived pf. [$_{VP}$ root pf.]]~~
[$_{VP}$ root pf.]	~~[$_{AspP}$ -va [$_{VP}$ root pf.~~]]
[$_{VP}$ derived pf. [$_{VP}$V root pf.]]	~~[$_{AspP}$ -va [$_{VP}$ derived pf. [$_{VP}$V root pf.]]]~~

(41) a. Aca je jedanput pobedio Anu, a Iva je redovno ~~pobeđivao Anu~~.

Aca is once win.**pf.**part. Ana and Iva is regularly win.**impf.**part. Ana

'Aca defeated Ana once, while Iva was regularly (defeating Ana).'

b. Aca ponekad pobedi Anu, a Iva je redovno ~~pobeđivao Anu.~~

Aca sometimes wins.**pf.** Ana and Iva is regularly win.**impf.**part. Ana

'Aca sometimes defeates Ana, while Iva was regularly (defeating Ana).'

c. Aca je u petak izbacio smeće, a Ana je celog semestra

Aca is in Friday out.throw-**pf**.part. trash and Ana is entire semester

~~izbacivala smeće.~~

out.throw-**impf.**part. trash

'Aca took the trash out on Friday, while Ana was (taking the trash out) the entire semester.'

d. Aca ponekad izbaci smeće, a Ana je celog semestra

Aca sometimes out.throws.**pf**. trash and Ana is entire semester

~~izbacivala smeće.~~

out.throw.**impf.**part. trash

'Aca sometimes takes the trash out, while Ana was (taking the trash out) the entire semester.'

Thus, the peculiar behavior of imperfective requires a systematic explanation that can also account for the rest of the structures shown here. In order to tackle this question, we should determine the exact part of the structure that is deleted under ellipsis. In the next section, I argue that a phase-constrained approach to ellipsis, which allows for the ellipsis of "phasally relevant

domains", i.e. phase or a phasal complement, can systematically capture the apperantly unpredictable discrepancies in the availability of VP-ellipsis with aspectual mismatches.

3.4 Constraining ellipsis: A requirement of strict phasal and aspectual antecedent

In a phase-based approach to ellipsis developed in Bošković (2014), only phase and/or the complement of a phase head (referred to as phasal complement below) are eligible for ellipsis, e.g. the complement of a phasal complement is not. Most phase-based approaches share the intuition that a phasal complement can be elided (Boeckx 2009, Bošković 2014, Gengel 2009, Rouveret 2012, M. Takahashi 2011, *i.a.*). However, Bošković (2014) argues that, in addition to the phasal complement, the phase is also an eligible domain for ellipsis (see also Holmberg 2001, who argues that only phases can undergo ellipsis). Bošković's main argument for the ellipsis of the entire phase is based on argument ellipsis, a process attested in e.g. Japanese (see Oku 1998, Saito 2001, 2004, 2007, Şener and Takahashi 2009, Sugawa 2008, D. Takahashi 2008a,b, 2010, *i.a.*). For instance, in Japanese (42), the availability of a sloppy reading of the phonetically null embedded CP is taken as an indicator of ellipsis ('____' indicates the ellipsis site). In other words, (42) is taken to involve the ellipsis of the argument CP, a phase.

(42) Hanako-wa [$_{CP}$ zibun-no teian-ga saiyoosareru to] omotteiru ga,

Hanako-top self-gen proposal-nom accepted-be that think though

Taroo-wa _____ omotte inai.

Taroo-top think not

'Hanako$_i$ thinks that her$_i$ proposal will be accepted, but Taroo$_j$ does not think that her$_i$/his$_j$ proposal will be accepted.'

(Shinohara 2006)

As for phasal complement ellipsis, such cases come from sluicing and NP ellipsis. In (43a), the elided material is an IP, the complement of C, a phasal head, whereas in (43b), the elided material is an NP, the complement of D, also standardly assumed to be a phasal head.

(43) a. They arrested someone, but I don't know [$_{CP}$ who C [$_{IP}$ ~~they arrested~~]].

b. You like Jane's book, and I like [$_{DP}$ Peter' s [$_{NP}$ ~~book~~]]. (from Bošković 2014)

In addition, Bošković shows that in multiple auxiliary constructions in English in (44), the right cut with respect to what can be elided can be made if both phases and phasal complements can undergo ellipsis.[63]

[63] Bošković, crucially, assumes a contextual approach to phasehood, according to which the phasal status of a phrase depends on the syntactic enviroment in which the phrase occurs (the approach also adopted in this Chapter). In particular, according to the version in Bošković (2014), the highest projection in the extended domain of a lexical projection is a phase. In (44), AspP$_1$ is the highest projection in the VP-domain, as shown in (i), and it counts as a phase. According to him, in (44), only AspP$_1$ as a phase; VPf$_2$ as a phasal complement can thus be elided, correctly predicting that only examples in (44b) and (44c) are grammatical (Bošković postulates only morphologically motivated projections in the structure).

(44) a. *Betsy must have been being hassled by the police, and Peter must ~~have been being hassled~~…

b. Betsy must have been being hassled by the police, and Peter must have ~~been being hassled~~…

c. Betsy must have been being hassled by the police, and Peter must have been ~~being hassled~~…

d. *Betsy must have been being hassled by the police, and Peter must have been being ~~hassled~~..

(Sag 1976)

Bošković also shows that the two ellipsis domains differ with respect to A'-extraction; in particular, such extraction is possible out of elided phasal complements (as in sluicing), but not out of elided phases (as in Japanese CP ellipsis in (42); see Bošković 2014 and references therein). This provides strong indication that both domains can be marked for ellipsis. Finally, it is important to note that regardless of the lack of concensus in the phase-governed approach as to which domain can be elided in ellipsis, according to all phase-constrained approaches, the complement of the complement of a phasal head is not eligible for deletion.

Following Bošković's (2014) system, I will argue that the discrepancies in the availability of VP-ellipsis with aspectual mismatches in Serbian can be accounted for if what is eligible for deletion are both phases and phasal complements. However, I argue that there is an additional requirement for VP-ellipsis that is not noted by Bošković (who only discusses matching ellipsis): the target and the antecedent need to match in their phasal status, i.e. if the target is a phase, the

---

(i) [$_{TP}$ must [$_{VPf1}$ have [$_{\mathbf{AspP1}}$ en [$_{VPf2}$ be [$_{AspP2}$ ing [$_{VPf3}$ be [VP

antecedent must also be a phase; the same holds for phasal complement targets. In other words, it is not only the target, but also the antecedent that affects the availability of ellipsis. Aspectual mismatches that do not tolerate ellipsis fail to meet one or both of these requirements: 1) "phasal relevance" of the target and 2) matching in phasal status between the target and the antecedent. Failing to meet these requirements renders VP-ellipsis unavailable.

Regarding the phasal status of a phrase, I assume that phasehood is not rigid, as proposed in Chomsky (2000, 2001), but rather defined contextually, where the phasal status of a phrase depends on the syntactic environment in which the phrase occurs, following the line of research in Bobaljik and Wurmbrand (2005), Bošković (2005, 2013, 2014), den Dikken (2007), Despić (2011), Gallego and Uriagereka (2007), M. Takahashi (2010, 2011), Wurmbrand (2013), *i.a*. A particular stand on the dynamic phasehood is taken in Bošković (2013, 2014), where it is argued that the highest projection in the extended domain of all major categories constitutes a phase. The contextually of this approach follows from variations in the amount of the structure projected both cross-linguistically and also within a language, which, Bošković argues, affects which particular phrase within a major category domain will count as a phase.[64] To illustrate, Bošković (2013, 2014) argues that in articless languages (e.g. Serbian, Chinese, Japanese), which he argues lack a DP projection, NP counts as a phase, since it is the highest projection in the nominal domain in these languages.[65] In article languages, on the other hand, where a DP is projected on the top of the NP, DP counts as a phase. Bošković (2013, 2014) shows that, for instance, extraction possibilities out of the NP domain in article and articless languages follow from this particular distinction in the phasal status of the traditional NP (henceforth TNP) in

[64] See also Wurmbrand (2013) who, on the basis of QR, provides evidence that highest projection of a cyclic domain, i.e. the Aspect domain, and the T+C domain, constitute phases.

[65] For Serbian as an NP language, see also Corver 1992, Zlatić 1997, 1998, Bošković 2005, 2008, Marelj 2008, 2011, Despić 2011, 2013, M. Takahashi 2012, Trenkić 2004, Runić 2014a,b , Talić 2013, 2015, among many others.

these languages (see also Chapter 1). What is even more interesting, Despić (2011, 2013) and Bošković (2013, 2014) show that numerals and certain quantifiers project a phrase above an NP in Serbian. Furthermore, Bošković shows that when QP is projected on the top of an NP in an NP-language, NP ceases to be a phase, and QP closes the phasal domain. The main argument concerns Abels's (2003) generalization that complements of phasal heads cannot move. Bošković shows that the complement of a noun cannot move in the configuration in (45a), but it can in (45b) and (46), indicating that NP is a phase only in (45a). In other words, context-sensitive phasal status of a phrase is determined both cross-linguistically and within a single language, depending on what the highest projection within a particular domain is.

(45) a. [$_{\textbf{NP=phase}}$ (Serbian)

b. [$_{\textbf{DP=phase}}$ [$_{\text{NP}}$ (English)

(46) [$_{\textbf{QP=phase}}$ [$_{\text{NP}}$ (Serbian)

Applying the dynamic approach to phases to the VP-domain in Serbian, where, as we have seen, more than one aspectual specification can occur on the verb, we need to determine which aspect counts as a phase. As noted earlier (cf. fn. 59), I assume that AspP is projected in the structure even when it is not morphologically realized, since this is where the information about viewpoint aspect is contained, the information which is necessary for determining temporal interpretation in a clause (see also Todorović 2015b; but see section 3.4 on phonologically null secondary imperfectives). When AspP is overtly realized, it is the locus of secondary imperfective, due to its viewpoint aspectual distribution. Regarding derived perfective prefixes, I assume they

introduce an additional VP layer; (47) illustrates the structure with all three aspectual specifications being present.[66]

(47) [$_{AspP}$ secondary impf. [$_{VP2}$ derived pf. [$_{VP1}$ root pf.

How do we determine the phasal status when several aspectual specifications are present in the structure? I propose that due to both functional and lexical nature of aspects in Serbian, not all aspectual information is part of the extended VP domain; rather, there is a division between lower aspect(s), which belongs to the (extended) VP domain, and the higher aspect(s) (see Travis 2010).[67,68] In particular, I propose that lexical aspect is a part of the VP domain, whereas viewpoint aspect is located in AspP, which is part of a different phasal domain, i.e. outside of the VP phasal domain.

Applying this approach to structures with mutliple aspectual specifications, root perfective closes the VP phasal domain, as in (48a), unless there is an additional projection on the top of VP introduced by derived perfective, in which case this additional projection counts as a phase, as in (48b).[69]

---

[66] It is also possible that derived perfectives are not introducing an independent phrase, but are rather affixes within a VP. What is important here is that they are within the same VP domain.

[67] I am here modifying the approach in Bošković (2014). Note, however, that he also notes that the status of aspect with respect to phasehood, i.e. its phasehood domain, can differ cross-linguistically.

[68] Note that what I refer to as the highest projection in the VP-domain is different from the proposal in Grimshaw (1991/2005), where the verbal domain would extend all the way up to the CP. I am roughly (though with some modifications) following Bošković (2014), who places projections involved in temporal interpretation (and CP) outside of the extended domain of VP. Under the current approach, purely functional aspectual projections are in fact outside of the extended VP-domain.

[69] Note, however, that VP is used for ease of exposition (both with perfectives and with root imperfectives). As usual in the bare phrase structure framework, phrasal level simply reflects the featural composition of the head (strictly speaking, there is no such thing as an NP, VP, etc.). It is also possible that the highest VP functions as vP, which I haven't assumed separately in the text (for a possibility of an aspect-related projection taking over certain roles of vP and confining the VP domain, see Ramchand 1993, *i.a.*). It is also possible that there is a separate, independent vP in the structure, projected on the top of the VPs. vP would, as the highest projection in the verbal

(48) a. [$_{\textbf{VP=phase}}$ root pf.

b. [$_{\textbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf.

c. [$_{AspP}$ secondary impf. [$_{\textbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf.

Is the phasal status of derived perfective affected when secondary imperfective is introduced into the structure? Under the current approach, it is not. Assuming that secondary imperfective is located in AspP, and given that AspP is a part of a separate phasal domain, the presence of secondary imperfective does not affect the phasal status of a VP, i.e. derived perfective always projects a phase when present in the structure simply because secondary imperfective, in AspP, and derived perfective, in VP, belong to two separate phasal domains. Hence, when present in the structure, derived perfective is always the highest projection in the VP-domain, always closing the phasal domain, regardless of the presence of AspP, as in (48c). Note that the same holds if secondary imperfective is added to a root perfective stem, as in (49) – secondary imperfective and root perfective belong to two different phasal domains and root perfective as the highest projection in the VP-domain counts as a phase (regardless of the presence or absence of secondary imperfective, AspP with these verbs belongs to a different phasal domain and does not affect the phasal status of the VP).[70]

---

domain, count as a phase. Importantly, even if vP is present in the structure, closing the phasal domain, and if we assume a different approach to ellipsis where what is elided is a form of a spell-out, i.e. a phasal complement, the availability of ellipsis under aspectual mismatches can be equally successfully accounted for (vP would, however, have to be present even in ergative and passive structures, since those also allow for VP-ellipsis in Serbian). Either approach would preclude the ellipsis of the complement of a phasal complement. In addition, assuming that what is elided needs to match in the phasal status with its strict aspectual antecedent (to be defined below), ellipsis of strictly a phasal complement, or also of a phase, would correctly predict the aspectual mismatches that allow for ellipsis (see the discussion below).

[70] For the moment, I am leaving aside the phasal status of AspP. However, I return to it in section 3.5, where I discuss the (un)availability of ellipsis with superlexical perfectives.

(49) [$_{AspP}$ secondary impf.[$_{\mathbf{VP=phase}}$ root pf.

Focusing for the moment on the phasal status of the target, let us see how the proposed approach can account for the discrepancies in the availability of ellipsis with aspectual mismatches. As noted earlier, VP-ellipsis is felicitous with a secondary imperfective as the antecedent and either root perfective or derived perfective as the target. In (50) (cf. (28)), the antecedent is a secondary imperfective derived from the root perfective. Under the proposed approach, the target VP which does not contain an additional projection in the VP domain is a phase, hence a legitimate object for VP-ellipsis. This is confirmed in (51).

(50)

Antecedent	Target
[$_{AspP}$ -va [$_{VP}$ root pf.	~~[$_{VP=phase}$ root pf.~~

(51) a. Aca je redovno pobeđivao Anu, a Iva je jedanput ~~pobedio Anu.~~

Aca is regularly win.**impf.**part. Ana and Iva is once win.**pf.**part. Ana

'Aca has always been defeating Ana, while Iva has (defeated Ana) once.'

b. Aca redovno pobeđuje Anu, a Iva je jedanput ~~pobedio Anu.~~

Aca regularly wins.**impf.** Ana and Iva is once win.**pf.**part. Ana

'Aca is always defeating Ana, while Iva has (defeated Ana) once.'

Similar situation obtains in (52) (cf. (32)), where the target is a derived perfective – the target is a phase and it is elidable, the relevant examples being correctly ruled in, as in (53).

(52)

Antecedent	Target
[$_{AspP}$ -va [$_{VP2}$ derived pf. [$_{VP1}$ root pf.	~~[**VP2=phase** derived pf. [$_{VP1}$ root pf.~~

(53) a. Aca je satima izbacivao smeće, a Ana je za pola sata

Aca is hours out.throw-**impf**.part. trash and Ana is for half hour

~~izbacila smeće.~~

out.throw-**pf**.part trash

'Aca was taking the trash out for hours, while Ana has (taken the trash out) in half an hour.'

b. Aca redovno izbacuje smeće, a Ana je jedanput ~~izbacila smeće.~~

Aca regularly out.throws.**impf**. trash and Ana is once out.throw.**pf**.part trash

'Aca is regularly taking the trash out, while Ana has (taken the trash out) once.'

Note that the proposed approach does not exclude the configuration in (54), since what is elided in the target is the phasal complement. However, ellipsis is here illegitimate due to a stranded prefix in the target (since derived perfective is always introduced with a prefix).

(54)

Antecedent	Target
[$_{AspP}$ -va [$_{VP2}$ derived pf. [$_{VP1}$ root pf.	[**VP2=phase** derived pf. ~~[$_{VP1}$ root pf.~~

Consider now the following example. In terms of the phasal status of the target, nothing goes wrong – VP is a phase, and it is in principle elidable. However, the ellipsis is precluded, as in (56).

(55)

Antecedent	Target
[$_{AspP}$ -va [$_{VP2}$ derived pf. [$_{VP1}$ root pf.	~~[$_{VP=phase}$ root pf.~~

(56) a. *Aca je satima izbacivao smeće, a Ana je za tren
Aca is regularly out.throw-**impf**.part. trash and Ana is for moment
~~bacila smeće.~~
throw.pf.part. trash
'Aca was taking the trash out for hours, while Ana has (thrown the trash) in a second.'

b. *Aca redovno izbacuje smeće, a Ana je jedanput ~~bacila smeće.~~
Aca regularly out.throws.**impf**. trash and Ana is once throw.pf.part. trash
'Aca is regularly taking the trash out, while Ana has (thrown the trash) once.'

Ellipsis is also not possible under the configuration in (57), where the target is a phase; examples in (58) are ungrammatical.

(57)

Antecedent	Target
[$_{VP2}$ derived pf. [$_{VP1}$ root pf.	~~[$_{VP=phase}$ root pf.~~

(58) a. *Aca je u petak izbacio smeće, a Ana je u sredu

Aca is in Friday out.throw.**pf**.part. trash and Ana is in Wednesday

~~bacila smeće~~.

throw.**pf.**part. trash

'Aca took the trash out on Friday, while Ana threw the trash on Wednesday.'

b. *Aca svakog petka izbaci smeće, a Ana je u sredu

Aca every Friday out.throws-**pf**. trash and Ana is in Wednesday

~~bacila smeće.~~

throw.**pf.**part. trash

'Aca takes the trash out every Friday, while Ana threw the trash on Wednesday.'

Thus, the configurations in (55) and (57) remain unaccountable for if we simply assume that ellipsis needs to make reference only to the phasal status of the target – although the requirement should be kept, it is simply not sufficient. I therefore argue that being a phase or a phasal complement is a necessary, but not a sufficient condition for a target to be deleted. Rather, I propose that the general parallelism requirement on ellipsis, i.e. the requirement for certain equivalence between the antecedent and the target, should be extended to include a requirement

of identity in the phasal status of the target and its antecedent.[71] In other words, I propose that there is a requirement in terms of identity in the phasal status of the target and its strict aspectual antecedent, as defined below.

(59) **Identity in terms of phasal status**: If the target is a phase, its strict aspectual antecedent also needs to be a phase; if the target is a phasal complement, its strict aspectual antecedent also needs to be a phasal complement.

(60) **A strict aspectual antecedent**: Part of the VP antecedent that completely matches the VP target in terms of aspectual properties, both lexical and functional.

Let us illustrate what the strict aspectual antecedent is. In (61) (cf. (32)), for instance, what we are deleting is a VP, and its strict aspectual antecedent is a VP_1 in the antecedent. Now, we should re-examine the availability of ellipsis under the newly proposed requirement whereby both the phasal status of the target and that of the antecedent matter. In (61), the target VP is a phase, but its strict aspectual antecedent VP_1 is a phasal complement. That is, although the first requirement for ellipsis is satisfied, i.e. the target is a phase, hence eligible for deletion, the second one is not, i.e. the antecedent and the target do not match in their phasal status. Thus, we correctly predict the elipsis to be ruled out here.

[71] See here Merchant (2012) who outlines different views on what the exact nature of the parallelism is, i.e. if the equivalence is syntactic or semantic in nature. The issue is far from settled.

(61)

Antecedent	Target
[$_{AspP}$ -va [$_{VP2=\textbf{phase}}$ derived pf. [$_{VP1}$ root pf.	~~[$_{\textbf{VP=phase}}$ root pf.~~

Moreover, we can account for the otherwise problematic configurations in (62) (cf. (34)): similarly to (61), the target VP is a phase, but its strict aspectual antecedent, i.e. VP_1, is a phasal complement; only one requirement for ellipsis is then satisfied, correctly predicting (62) to be ungrammatical.

(62)

Antecedent	Target
[$_{\textbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf.	~~[$_{\textbf{VP=phase}}$ root pf.~~

Note also that this new phasal constraint equally successfully accounts for the grammaticality of (63) (cf. (50)), and (64) (cf. (52)): in both examples the target is a phase, and its strict aspectual antecedent is also a phase, satisfying both requirements for ellipsis.

(63)

Antecedent	Target
[$_{AspP}$ -va [$_{\textbf{VP=phase}}$ root pf.	~~[$_{\textbf{VP=phase}}$ root pf.~~

(64)

Antecedent	Target
[$_{AspP}$ -va [$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf.	~~[$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf.~~

Thus, the additional requirement for identity in the phasal status of the antecedent and the target provides an empirically superior version of a phase-constrained approach, given that it not only equally successfully accounts for the pattern in (61) and (62), but it also provides an explanation for the otherwise unexplained (63) and (64). [72,73,74]

[72] It would be interesting to see to which extent the requirements in (59) is applicable to English, especially in constructions with a rich middle field, i.e. in multiple auxiliary constructions, discussed in Sag (1976), and analyzed in terms of the phasal approach in Bošković (2014).

[73] Note that the ellipsis in (54), as in (i) here, would not be excluded under this approach, since both the target and its strict aspectual antecedents are phasal complements, hence the ellipsis should be allowed. However, this configuration is independently excluded due to a stranded affix in the target.

(i) Antecedent [-va [$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf. Target: [$_{\mathbf{VP2=phase}}$ derived pf. ~~[$_{VP1}$ root pf.~~

[74] We can also consider the possibility of a "weaker" version of the phasal requirement for the antecedent where the antecedent needs to be a phase or a phasal complement, but it does not need to match the target in its phasal status. In other words, there would then be no identity requirement in terms of the phasal status betweeen the antecedent and the target. This "weaker" version can account for configurations in (63) and (64), repeated in (i) and (ii), since both the target and its strict antecedent are phasally relevant for ellipsis, i.e. they are phases. However, this "weaker" requirement would not be able to account for the problematic (61) and (62), repeated in (iii) and (iv), respectively. Namely, in (iii), the target is a phase and its strict antecedent is a phasal complement, hence both requirements are satisfied under the "weaker" version; yet, this configuration does not allow for ellipsis. In (iv), the target and its strict antecedent have the same phasal status as they do in (iii), both requirements being satisfied, the configuration would then be incorrectly predicted to be grammatical. Thus, I suggest that the "stronger" version which requires identity in terms of the phasal status between the target and its strict antecedent is emperically superior.

(i) Antecedent: [$_{AspP}$ -va [$_{\mathbf{VP=phase}}$ root pf. Target: ~~[$_{\mathbf{VP=phase}}$ root pf.~~
(ii) Antecedent: [$_{AspP}$ -va [$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pfv. Target: ~~[$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pf.~~
(iii) *Antecedent: [$_{AspP}$ -va [$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pfv. Target: ~~[$_{\mathbf{VP=phase}}$ root pf.~~
(iv) *Antecedent: [$_{\mathbf{VP2=phase}}$ derived pf. [$_{VP1}$ root pfv. Target: ~~[$_{\mathbf{VP=phase}}$ root pf.~~

3.4.1 Secondary imperfectives as targets and the absence of AspP

There is one configuration that is still puzzling even under the modified approach, namely when the secondary imperfective is the target in the deletion, and root or derived perfective is the antecedent. The two configurations are given in (65) and (67), with the corresponding examples in (66), and (68), respectively.

(65)

Antecedent	Target
[$_{\mathbf{AspP}}$ pf. [$_{\mathbf{VP}}$ root pf.	~~[$_{\mathbf{AspP}}$ secondary impf. [$_{\mathbf{VP}}$ root pf.~~

(66) a. Petar je ovog puta pobedio Anu, a Aca je redovno ?? ~~pobeđivao Anu.~~

Petar is this time win.**pf.**part. Ana and Aca is regularly win.i**mpf.**part. Ana

'Petar has defeated Ana this time, while Aca was regularly (defeating Ana).'

b. Petar ponekad pobedi Anu, a Aca je redovno ?? ~~pobeđivao Anu.~~

Petar sometimes wins.**pf.** Ana and Aca is regularly win.i**mpf.**part. Ana

'Petar sometimes defeats Ana, while Aca has always been (defeating Ana).'

(67)

Antecedent	Target
[$_{\mathbf{AspP}}$ pf. [$_{\mathbf{VP2}}$ derived pf. [$_{\mathrm{VP1}}$ root pf	[~~$_{\mathbf{AspP}}$ secondary impf. [$_{\mathrm{VP2}}$ derived pf. [$_{\mathrm{VP1}}$ root pf.~~

(68) a. Aca je ovog puta izbacio smeće, a Ana je celog prošlog semestra

Aca is this time out.throw-**pf.**part. trash, and Ana is entire last semester

~~izbacivala smeće.~~

out.throw-**impf.**part. trash

'Aca took the trash out this time, while Ana was (taking the trash out) the entire last semester.'

b. Aca ponekad izbaci smeće, a Ana je redovno

Aca sometimes out.throws-**pf.** trash, and Ana is regularly

?? ~~izbacivala smeće.~~

out.throw-**impf.**part. trash

'Aca sometimes takes the trash out, while Ana was regularly (taking the trash out).'

As the above examples show, ellipsis of the target is allowed here. Regarding the requirements for the ellipsis, the requirement of deleting a 'legitimate' object in the second conjunct is satisfied, provided that AspP is either a phase or a phasal complement.[75] However, a problem appears to arise with having a strict aspectual antecedent – the viewpoint AspP of the antecedent is specified for the perfective. In other words, this configuration appears not to meet the requirement of having the same strict aspectual antecedent.[76] Furthermore, the issue of recoverability appears to arise, i.e. the inability to reconstruct the missing material, since the antecedent does not have the matching structure that would help us recover the interpretation of

[75]Below I return to the issue of the phasal status of the target in this particular configuration. I will argue that what we are deleting is not an AspP, but rather a VP. To be more specific, I argue that AspP is not even projected in the target in this particular configuration under ellipsis (this option will be severely constrained, hence it will not affect other analyses from this Chapter that rely on the presence of AspP). If what is deleted is a VP and not an AspP, then there is no problem here with respect to the phasal status of the target, since what we are deleting is a phase, a legitimate object for deletion.

[76] The configurations also pose a problem for the "weaker" requirements for VP-ellipsis, discussed in footnote 74.

the elided material. Below I show that a closer look at these example reveals that the recoverability issue does not actually arise here.

First, given that these examples are acceptable, it seems that the initial requirement for deletion, i.e. the feature identity requirement, which I argue needs to hold in the syntax, is somehow "blind" to the presence of secondary imperfective in the target. The immediate question arises as to what makes secondary imperfective so special in contrast to other aspectual specifications, which, we saw, cannot be present in the target unless they are also present in the antecedent (cf. (36), (37)).

An interesting parallel can be drawn here with English, which also confirms the special status of imperfective. Following Enç (1991), Smith (1991), Kamp and Reyle (1993), Cowper (1996, 1998), Wurmbrand (2014), *i.a.*, I assume that progressive forms in English are morphological reflexes of an imperfective aspectual value, while the non-progressive forms are morphological reflexes of a perfective value.[77] Potsdam (1997) brings up examples like (69) as a problem for Lasnik's (1995) analysis of VP-ellipsis in English, since the example involves an apparent Stranded Affix violation, if what is indeed elided is *sit quietly* and not *sitting quietly* (*-ing* would then be stranded). Note, however, that if what is elided is *sitting quietly* the problem does not arise. Thus, in order to derive (69), we need to delete *sitting quietly*.[78]

(69) Why don't you sit quietly? I am ~~sitting quietly.~~

(Postdam 1997:6)

[77] This line of reasoning receives further support from the parallelism between progressive forms and Serbian imperfective, and between non-progressive forms and Serbian perfective with respect to aspectual restrictions in certain contexts (see Todorović 2015b).

[78] See Chapter 2 for an analysis of English VP-ellipsis, discussed in footnote 63.

This deletion pattern in English is similar to the Serbian configurations in (65) and (67), since what we are deleting is aspectually different from what we see in the antecedent, and in both cases the target is imperfective. If VP-ellipsis is "blind" to the differences with respect to imperfective, we could explain why we observe a very similar pattern in English and Serbian and why, in Serbian at least, these are the only environments where the target is allowed to be different from the antecedent. [79,80,81]

In particular, it cannot be the imperfective nature alone that is responsible for the availability of VP-ellipsis, since root imperfectives cannot be targets or antecedents with any aspectual specifications other than the root imperfective itself. Secondary imperfective, on the other hand, allows for ellipsis relatively easily. Also, the permissibility of secondary imperfective to have not only a different antecedent, but more phonologically overt material than the antecedent is in contrast with the lack of ellipsis of derived perfective targets with a structurally poorer root perfective antecedent:

[79] As noted in Table 1 (and as I will elaborate on in section 3.5), a target with a superlexical perfective specification in Serbian cannot be elided if its antecedent is a VP with a minimally different structure, i.e. if the antecedent is only missing superlexical perfective aspectual specification, all the other parts being identical to the target. Since superlexical perfective is argued to be at least partially functional in nature (see section 3.5), the lack of ellipsis with these targets and the availability of ellipsis with a secondary imperfective target in (65) and (67) might be taken as an indicator that it is not the functional projection, i.e. AspP that can be ignored, but rather that it is the property of imperfective, and not the perfective, to be somehow invisible for the identity requirement.

[80] One way to solve the problem would be to go along with Stjepanović's (1997) proposal and argue that what we are deleting is not a VP, but an AffP where *–ing* in English and *–va* in Serbian would, then, be located; ellipsis being blind to differences in affixes, both Serbian and English would be predicted to be grammatical. Although this particular assumption would not imply anything about the nature of finiteness, we would need to capture somehow that finiteness does play a role in these examples, i.e. that finite antecedents are less acceptable than non-finite antecedents (cf. section 3.6).

[81] Regarding the recoverability issue, i.e. how is the information about imperfective recovered if there is no corresponding information in the antecedent, I suggest below that with secondary imperfective morpheme *–va* and English *–ing,* the local environment provides the information that makes the aspectual specification recoverable, despite the apparent lack of such information in the antecedent (cf. Rouveret 2012). Regarding *–ing* in English, I suggest that the auxiliary provides the relevant local environment for the recoverability of *–ing* (cf. Rouveret 2012).

(70)

Antecedent	Target
[$_{VP1}$ root pf	~~[$_{VP2}$ derived pf. [$_{VP1}$ root pf.~~

(71) a. *Aca je u petak bacio smeće, a Ana je u sredu

Aca is in Friday throw.**pf**.part. trash and Ana is in Wednesday

~~izbacila smeće.~~

out.throw-**pf.**part. trash

'Aca threw the trash on Friday, while Ana threw the trash out on Wednesday.'

b. *Aca ponekad baci smeće, a Ana je samo jedanput

Aca sometimes throws.**pf**. trash and Ana is only once

~~izbacila smeće.~~

out.throw-**pf.**part. trash

'Aca sometimes takes the trash out, while Ana has (thrown the trash out) only once.'

Regarding the unavailability of ellipsis in (70), I suggest that two issues arise. The first one is the lack of a strict aspectual antecedent, and, in the approach developed here, this deficiency causes the failure to satisfy the second requirement for ellipsis, i.e. the target and its strict aspectual antecedent need to be identical in terms of their phasal status. The lack of a strict aspectual antecedent is also related to the second issue, and that is the issue of recoverability. Recall that derived perfectives can affect the thematic configuration of the root perfective stem. Given the idiosyncratic meaning perfective prefixes introduce and their ability to change the existing

thematic relations of the root perfective stem, their meaning cannot be recovered from the environment; there is simply not enough information that would indicate which exact prefix we are omitting in the target, and how exactly this is affecting the structure. Regading the adverbials that occur with the target, they are insufficient to recover the missing information – with the addition of derived perfective prefixes to a perfective stem, the aspectual specification does not change, and the adverbials which are compatible with both root perfective and derived perfective aspect tell us nothing about the lexical change on the verb. In other words, we cannot determine if what is elided is a root perfective or lexically derived perfective. In addition, given that the antecedent is a root perfective, and the adverbials *u sredu* 'on Wednesday'/ *jedanput* 'once' that occur in the second conjunct are also compatible with the antecedent, the intuition is always that what is elided is the verb identical to the antecedent, i.e. root perfective. In other words, it seems impossible to recover the derived perfective as the elided material.

This then triggers the following question: why does not the issue of recoverability arise in the case of secondary imperfective targets? In addition, despite the apparently same amount of structure projected in both the target and the antecedent, how do we overcome an obvious problem of the target and its aspectual antecedent not being identical, i.e. differing in the viewpoint aspectual value?

Let us first consider the latter issue for (65) and (67). I argue that this problem is only apparent. In particular, I propose that the target is actually a VP and not an AspP, i.e. I propose that in the case of ellipsis of secondary imperfectives, AspP is not present in the structure (see the discussion below for why this is the case). The problem of the target being aspectually different than its strict aspectual antecedent then does not actually arise.

First, it is important to note that I propose that AspP with secondary imperfectives is absent only in limited environments, specifically, only in the case of ellipsis of secondary imperfective targets (see below). In all other cases where secondary imperfective is phonologically overt, including the configurations in which secondary imperfectives act as antecedents, I suggest that AspP is present in the structure. The first question is if the structural difference between phonologically overt and phonologically null secondary imperfectives can be motivated, and the second one is why the elided verb would be structurally poorer than the non-elided one. I suggest that the answer for the first question can be found in constructions which are also not overtly marked for aspect in languages like Chinese, Korean, Inuktitut. The second question is related to the issue of recoverability.

It is well known that Chinese lacks overt temporal morphology. Instead, temporal interpretation is derived from aspect and/or temporal adverbials, as argued by Lin (2003, 2006), Smith and Erbaugh (2005), *i.a.* Importantly, these authors claim that even when there is no overt aspectual marker, temporal and aspectual information can be derived. For instance, in (72) and (73) there are no aspectual markers, but the former can only have past, while the latter can only have present interpretation.

(72) Ta dapuo yi-ge hua ping.
he break one-Cl flower vase
'He broke a flower vase.'

(73) Wo xiangxin ni.

I believe you

'I believe you.'

(Lin 2003)

Lin (2003, 2006) and Smith and Erbaugh (2005) argue that the temporal interpretation comes from aspectual properties, which, they argue, are derived from the telicity of the verb: telic verbs, as in (72), come with perfective as a default aspect, whereas atelic verbs as in (73) come with a default imperfective aspect. They argue that default aspects are determined on the basis of the verb's situation type, unless the contextual information dictates otherwise. In particular, in (74), the adverbials dictate the temporal interpretation of the sentence to be past, present or future, respectively. Aspectual markers, when present in the structure, have the same role (see the formal analysis below; see also Chapter 4).

(74) a. Ta zuotian hen mang.

he yesterday very busy

'He was very busy yesterday.'

b. Ta xianzai hen mang.

he now very busy

'He is very busy now.'

c. Wo mingtian hen mang.

I tomorrow very busy

'I will be very busy tomorrow.' (Bošković 2012)

Another set of examples comes from Inuktitut. Bohnemeyer and Swift (2004) report on Swift's (2004) observation that the interpretation of a temporally zero-marked verbal forms, which occurs with both atelic and telic predicates, depends on the telicity of the predicate. Telic predicates receive a perfective interpretation (and are further interpreted in the past), as in (75) and atelic predicates have an imperfective interpretation, as in (76). When one, however, wants to express imperfective viewpoint with telic predicates and perfective viewpoint aspect with atelic predicates, overt aspectual markers must be used.

(75) Anijuq.

Ani-juq

go.out-par.3.sg[82]

'He she went out.'

(76) Pissuttuq.

pisuk-juq

walk-par.3.sg

'He/she is walking.'

What is relevant for the current discussion is the fact that in certain environments in Chinese and Inuktitut aspect is not morphologically realized, but the aspectual information can still be decoded. In this respect, consider also Korean. Kang (2014) notes that, even though Korean makes use of overt aspectual markers, they can be omitted in certain conjuncts. Kang analyzes *–ess* in the second conjunct in (77) and in the first conjunct in (78) as a perfective marker.

[82] Abbreviation 'par' refers to participial, which the Authors claim to be the standard indicative mood in Tarramiut dialect of Inuktitut.

(77) Swuni-ka pap-ul mek-ko Chelswu-ka ppang-ul mek-ess-ta.

Swuni-nom rice- acc eat- conj Chelswu-nom bread-acc eat-past -decl

'Swuni ate rice and Chelswu ate bread.'

(78) Mary-ka ecey ppang-ul mek-(ess)-ko onul pap-ul mek-nun-ta.

Mary-nom yesterday bread- acc eat-past-conj today rice-acc eat-pres-decl

'Mary ate the bread yesterday but eats the rice today.'

Shon, Hong and Hong (1996)

She argues that although this marker is phonologically present only in the second conjunct in (77), it determines the perfective interpretation of the first conjunct as well, since there is no other overt adverbial or aspectual marker dictating otherwise. Perfective interpretation then derives past temporal interpretation.[83] Similarly, *–ess* is optional in the first conjunct in (78); although the temporal interpretation of the second conjunct is present, as indicated by the adverbial *onul* 'today', the past interpretation of the first conjunct is due to the adverbial *ecey* 'yesterday'; since the perfective marker *–ess* is compatible only with past interpretations, it does not need to be phonologically realized. Crucially, Kang (2014) notes that the optionality of the aspectual marker is limited only to co-ordinated clauses in Korean, i.e. in order to derive the correct interpretation in embedded clauses in Korean, the aspectual marker needs to be present overtly. In (79), *–ess* in the embedded clause cannot be dropped, despite there being *–ess* in the matrix clause.

[83] Kang (2012) also argues there is no TP in Korean, but temporal information can be determined by aspectual markers and temporal adverbials. The same is argued for Chinese by Lin (2003, 2006), Smith and Erbaugh (2005), *i.a.* Bošković (2012) also entertains the possibility of the absence of TP in these languages (see also Despić 2015).

(79) Bill-un Mary-ka pap-ul mek-*(ess)-ta-ko sayngkakha-*(ess)-ta.

Bill-top Mary-nom rice-acc eat-asp-decl-comp think-asp-decl

'Bill thought that Mary had eaten rice.'

I propose that Serbian is abstractly like Chinese, Korean and Inuktitut in having no aspectual marker in limited environments. The difference is that, in Chinese, Korean, and Inuktitut, the aspectual marker is missing with phonologically overt verbs, whereas in Serbian, I propose, it is missing when VP-ellipsis takes place. In particular, I propose that with the ellipsis of secondary imperfectives, and only in these environments, there is no secondary imperfective aspectual marker present in the structure. Rather, in these environments, it is the VP, and not the AspP, that is deleted. If it is indeed VP that is deleted with secondary imperfectives, then the strict aspectual antecedents, i.e. the derived and root perfective antecedents, which are structurally VPs, are not aspectually different from the target.[84]

Finally, a note is in order regarding the interpretation of viewpoint aspect in the absence of an overt aspectual marker. One indicator of what aspect we are dealing with is the type of the time adverbial, as in some of the abovementioned cases in Chinese and Korean. Is there such an indicator in the environment with elided secondary imperfectives in Serbian? I argue that the adverbial in such cases is telling. For example, the adverbials *redovno* 'regularly' in (66) or *celog prošlog semestra* 'the entire last semester' in (68) are compatible only with imperfective

[84] Another possibility is that AspP is indeed present in the structure of secondary imperfective targets in (65) and (67), but that AspP is deleted independently of the VP. Under this analysis, there would be a separate operation of AspP deletion (when AspP is recoverable in the manner discussed above) that is independent of the phasally constrained VP-ellipsis. The latter would apply in the usual manner and then AspP can be separately deleted (phasehood would be irrelevant here). Under this scenario, both the VP in the target in (65) and the VP in the target in (67) would have a structural correspondent in the antecedent, with which they would match in terms of the aspectual make-up and phasal status (both would be a phase). VP-ellipsis could then take place and AspP could then be separately deleted. The issue with this analysis is that it cannot account for the lack of ellipsis of secondary imperfectives with superlexical perfective antecedents, to which I return in the next section.

aspect, suggesting that the elided VP can only be imperfective. The presence of the adverbial can also explain why the recoverability issue does not arise with the ellipsis of secondary imperfectives despite the lack of the corresponding information in the antecedent. The local environment, i.e. the adverbial, is what makes the aspectual information recoverable (cf. Rouveret 2012). In addition, one can say that it is the very nature of secondary imperfectives that makes it possible to recover them: since, unlike derived perfective, the secondary imperfective does not change lexical properties of the stem it is suffixed to, only contributing aspectual information, then, unlike with derived perfective, the presence of an adverbial is enough to recover the exact meaning of the deleted VP.

However, with aspectually unmarked, but overt VP, there is another, potentially more significant indicator and that is the verb's lexical aspect, as shown above for Chinese, Korean and Inuktitut.

Bohnemeyer and Swift (henceforth B&S) (2004) provide a formal analysis of the interpretation of the viewpoint aspect of aspectually unmarked verbs, on the basis of the telicity of the event predicates. B&S analyze, among others, German, Inuktitut and Russian; they argue that in languages which have predicates zero-marked for aspect, but in which the interpretation of viewpoint aspect depends on the telicity, the aspectual interpretation is determined under an implicature of event realization.

The analysis includes the following components: 1) Event realization refers to a Predicate P being realized by event e at topic time t_{TOP} iff at least the run time of a subevent e' of e (that is also within the denotation of P) is included in t_{TOP} (B&S 2004:286). Topic time is defined as time for which the utterance is asserted to be true (Klein 1994). 2) With aspectually unmarked predicates, there is an implicated aspectual operator D_{Asp}, i.e. viewpoint aspect, as in (80), which

is of the same form as the perfective and imperfective viewpoint operators in (81) and (82); perfective requires that the event time is included within the topic time and imperfective requires that the event time includes the t_{TOP}. When D_{Asp} is applied to a predicate P and event e (which is existentially bound), the operator assigns to a t_{TOP} a topic time 'projection range' (B&S 2004) such that e is realized under P. In other words, aspectually unmarked predicates will implicate that the event is realized. The question is why this should be the case and how it is implemented in the analysis.

(80) $D_{Asp} := \lambda P.\lambda t.\exists e\ [REAL_{E}(P, t_{TOP}, E)]$

(81) Perfective: $= \lambda P.\lambda t_{TOP}.\exists e\ [P(e)\ \&\ \tau(e) \leq t_{TOP}]$

(82) Imperfective: $= \lambda P.\lambda t_{TOP}.\exists e\ [P(e)\ \&\ t_{TOP} \leq \tau(e)]$

Regarding the question of why (80) should implicate that the event is realized, B&S (2004) resort to the Gricean Maxim of Quantity, which states that the speaker's contribution should be as informative as possible, and argue that the realization of the event is more stereotypical (or expected) than the lack of its realization (they provide evidence to this effect from first language acquisition of Inuktitut).

Further, to establish the relations between D_{Asp}, t_{TOP} and event time, and determine the interpretation of D_{Asp}, B&S argue that telicity is crucial; telicity determines the interpretation of viewpoint aspect. Namely, the event realization requires t_{TOP} and the event time to overlap; B&S argue that the only way for t_{TOP} and the event time to overlap is if the event time is included in the t_{TOP}. And this is exactly what telic P gives us: P is telic if no proper subevent falls under P. If all those ingredients are put together, the telic P can only be realized if the viewpoint aspect ends

up being perfective, i.e. the aspect which includes the event time within t_{TOP}, as in (81). In other words, the telicity of P determines the interpretation of viewpoint aspect.

How do we interpret atelic events? If the predicate is atelic, assuming P is homogeneous, any subevent of e will also be predicate P. Having e realized under P at t_{TOP} is is compatible with t_{TOP} being included in the event time, i.e. t_{TOP} is part of the run time of interval e. But this is exactly how imperfective viewpoint is defined. In other words, atelic P will contribute imperfective viewpoint interpretation.

Note that atelic predicates are also compatible with perfective interpretation, because perfectivity always means realized, so with homogenous divisible predicates this is in priniciple possible (if the event time of e is included within the t_{TOP}, this also holds for any subevent e' of the homogenous predicate). B&S (2004), however, argue that a perfective interpretation of aspectually unmarked atelic predicates is exluded due to the Gricean Maxim of Quantity. They argue that imperfective and perfective form an entailment scale, where any subevent e that realizes P under imperfective aspect also realizes it under perfective aspect, but not the other way round. In terms of subevent realization, perfective aspect is thus stronger and more informative. B&S thus argue that if there is no perfective marking in a context where it could be marked, then the Maxim of Quantity will implicate that such context should receive an imperfective interpretation.

Given B&S's analysis, even if predicates are aspectually unmarked, they can receive aspectual interpretation based on their telicity. Their analysis can be further applied to the languages discussed above (note that Lin (2003) follows B&S's analysis, but does not provide formal details of its application to Chinese). More importantly, it should be noted that B&S do not at any point commit to the default aspect being necessarily projected in the structure as a separate

AspP. Their analysis thus can be applied to the cases of secondary imperfective in Serbian – even in the absence of AspP, viewpoint aspect information can still be computed in the relevant cases discussed above. I leave such an exploration for future endavours though.

3.5 Superlexical perfective

In section 3.2, I proposed that superlexical perfectives introduce an additional projection on the top of AspP containing secondary imperfective (repeated in (83)). Given its location outside of the VP domain, superlexical perfective are expected not to cause problems with respect to the availability of ellipsis. From what has been illustrated above, only the difference between the antecedent and the target within the VP-domain makes VP-ellipsis unavailable. Below I show that, contrary to expectations, superlexical perfective is actually a highly restrictive antecedent in a sense that it does not allow for VP-ellipsis under aspectual mismatches. However, I also show that these restrictions are only apparently problematic and that they can still be solved under the proposed analysis. In turn, they help us specify the nature of the projection hosting superlexical perfective.

(83) [superlex. pf. [$_{\text{AspP}}$ sec. impf. [$_{\textbf{VP2=phase}}$ der. pf. [$_{\text{VP1}}$ root pf.

3.5.1 Distribution under ellipsis

Superlexical perfectives allow for ellipsis only under the full identity with the target, i.e. when the target is a superlexical perfective:

(84) Aca je u sredu po-izbacivao flaše, a Ana je u petak
Aca is in Wednesday dstr-out.throw.**impf**.part. bottles, and Ana is in Friday
~~po-izbaci-vala flaše.~~
dstr-out.throw.**impf**.part. bottles
'Aca threw the bottles out (one by one) on Wednesday, and Ana threw the bottles out one by one on Friday.'

With secondary imperfectives as targets, which are only minimally different in terms of the structure, superlexical perfective antecedents do not allow for ellipsis, as in (85). This contrasts sharply with the ellipsis possibilities of secondary imperfectives, which I showed to be elidable not only with secondary imperfective antecedents, but also with root and derived perfectives.

(85) *Marija je ovog puta po-izbacivala flaše, a Ana je redovno
Marija is this time dstr-out.throw.**impf**.part. bottles and Ana is regularly
izbacivala flaše.
out.throw.**impf**.part. bottles
'Marija threw the bottles out one by one this time, while Ana was (throwing the bottles out) regularly.'

Furthemore, superlexical perfectives are also infelicitous antecedents to derived perfectives:

(86) *Aca je ovog puta ~~po-izbacivao flaše~~, a Ana je prošlog puta
Aca is this time dstr-out.throw.**impf**.part. bottles, and Ana is last time
~~izbacila flaše.~~
out.throw.**pf**.part. bottles
'Aca has thrown all the bottles out, one by one, this time, and Ana threw the bottles out last time.'

It is the unavailability of ellipsis in (86) that poses a potential problem for the current analysis. Namely, the target in (86) is a phase, since VP_2 is the highest projection in the VP domain (as shown in (87)). As for the antecedent, if secondary imperfective and superlexical perfective are parts of a phasal domain outside of the VP phasal domain, then they should not affect the phasal status of projections within the VP domain; the strict aspectual antecedent, i.e. VP_2, is also a phase. Given the identity in the phasal status, ellipsis should be possible, contrary to the facts.

(87)

Antecedent	Target
[superlex. pf.[$_{AspP}$ sec.impf.[$_{\mathbf{VP2=phase}}$ der. pf. [$_{VP1}$ root pf. *poizbacivati* 'to throw out one by one'-pf.	[~~$_{\mathbf{VP2=phase}}$ der. pf. [$_{VP1}$ root pf.~~ *iz-baciti* 'to throw out'-pf.

In order to provide a solution for the problematic case in (86), it is necessary to specify the nature of the projection hosting superlexical perfective. I argue that, given the contribution that superlexical prefixes make in terms of meaning (e.g. distributive), they are at least to some extent verbal-like in nature. I propose that they are some sort of a VP-projection, potentially semi-lexical/functional projection (cf. Koizumi's (1995) implementation of Larsonian (1988) shells in terms of split VP; see also Travis 2010); due to the nature of this projection, when superlexical perfectives are present in the structure, they close the verbal domain, making the entire domain one phase, as in (88).

(88) [$_{\mathbf{=phase}}$ superlex pf. [$_{AspP}$ sec. impf. [$_{VP2}$ der. pf. [$_{VP1}$ root pf.

If we now reconsider the availability of ellipsis (or the lack thereof) with superlexical perfective antecedents, the patterns fall out straightforwardly. In (85), not even minimally different secondary imperfectives can be elided with superlexical perfective antecedents. Given that the ellipsis of secondary imperfectives is in principle available, secondary imperfectives are either a phase or a phasal complement. There are two options at this point: 1) secondary imperfective target projects only a VP domain (as argued in section 3.4), and acts as a phase, while its strict strict aspectual antecedent, VP2, is the complement of the complement of a phase, given the

structure of superlexical perfectives in (83). 2) secondary imperfective target projects AspP, in a domain crucially outside of the VP phasal domain, while its strict aspectual antecedent AspP is now part of the verbal phasal domain and it is a phasal complement, given (83). In either case, the lack of a match in the phasal status renders the ellipsis unavailable.

(89)

Antecedent	Target
[[$_{\textbf{=phase}}$ superlex. pf. [$_{\text{AspP}}$ sec. impf. [$_{\text{VP2}}$ der. pf. [$_{\text{VP1}}$ root pf. *poizbacivati*- 'to throw out one by one'-pf.	1) <u>No Asp projected</u> [$_{\textbf{VP2=phase}}$ der. pf. [$_{\text{VP1}}$ root pf. 2) <u>AspP projected</u> [$_{\text{AspP}\textbf{=phase/phasal compl.}}$ sec. impf. [$_{\textbf{VP2=phase}}$ der. pf. [$_{\text{VP1}}$ root pf. *izbacivati*- 'to throw out'-impf.

Furthermore, we can also account for the otherwise problematic lack of ellipsis of lexical perfectives in (86). As schematized in (90), the target is a phase (and in principle elidable) since VP containing derived perfective closes the VP domain. However, superlexical perfective again creates a problem, since by extending the phasal domain all the way up, it renders the strict aspectual antecedent, i.e. VP_2, a complement of a phasal complement. Again, the lack of identity in terms of the phasal status precludes ellipsis. Thus, an apparently problematic example receives a straightforward explanation.

(90)

Antecedent	Target
[**=phase** superlex. pf. [$_{AspP}$ sec. impf. [**VP2=phase** der. pf. [$_{VP1}$ root pf. *poizbacivati* 'to throw out one by one'-pf.	[~~**VP2=phase** der pf. [$_{VP1}$ root pf.~~ *iz-baciti* 'to throw out'-pf.

3.6 Open-ended questions

One configuration that has remained unsolved is ellipsis with root imperfective infinitives and participles, where we have observed finiteness mismatches – in (91) with non-finite and in (92) with finite antecedents, aspectual specifications of antecedents and targets are identical, but only non-finite antecedents in (91) allow for ellipsis. However, on a closer scrutiny, it turns out that it is not finiteness that affects the availability of ellipsis with root imperfective infinitives and participles, as discussed below.

(91) a. Ivan je čitao knjigu, a Petar nije ~~čitao knjigu~~.
Ivan is read.**impf.**part. book but Petar not.is read.**impf.**part. book
'Ivan has read the book, but Petar hasn't (read the book). '

b. Ivan je čitao knjigu, a Petar neće ~~čitati knjigu~~.
Ivan is read.**impf.**part. book, but Petar not.will read.**impf.**inf. book
'Ivan has read the book, but Petar won't be (reading the book). '

(92) a. *Ivan čita knjigu, a Petar nije ~~čitao knjigu~~.

Ivan reads book, but Petar not.is read.**impf.**part. book

'Ivan is reading a book, but Petar hasn't (read the book).'

b. *Ivan čita knjigu, a Petar neće ~~čitati knjigu~~.

Ivan reads-**impf.** book, but Petar won't read.**impf.**inf. book

'Ivan is reading a book, but Petar won't (reading the book). '

First, let us tackle the incompatibility of root imperfective antecedents and targets in mismatches with other aspects. I suggest that aspectual differences stem from the specification of the V itself, since, as I argued, verbs enter the derivation specified for imperfective or perfective. The difference in aspect explains why we never observe the antecedent–target configuration as in (93): if the two VPs are already different in the verb itself, and assuming aspect to be featurally represented, then we expect a mismatch to arise, and ellipsis to be blocked.

(93) a. *Antecedent: [$_{VP}$ perfective Target: [$_{VP}$ imperfective

b. *Antecedent: [$_{VP}$ imperfective Target: [$_{VP}$ perfective[85]

This further explains why, from the perspective of featural aspectual specifications, the configurations in (94) are allowed: all the complex antecedents are composed of root perfective VPs, i.e. there is no aspectual mismatch in the VP between the antecedent and the target. It also explains why any antecedent with aspect derived from perfective, as in (95), is incompatible with root imperfective targets – there is always a mismatch. Finally, derived perfectives can also be

[85] Recall that ellipsis is available in one configuration, i.e. when a non-finite root imperfective serves as an antecedent to root perfective target. See footnote 58 for a possible solution.

derived from imperfective stems, as in (96). Such a configuration is not excluded due to featural aspectual specifications, but it is under the proposed phasal approach – the target is a phase, but its strict aspectual antecedent is not.

(94) a. Antecedent: [$_{AspP}$ secondary imperfective [$_{VP}$ derived perfective [$_{VP}$ perfective

Target: [$_{VP}$ derived perfective [$_{VP}$ perfective

b. Antecedent: [$_{VP}$ derived perfective [$_{VP}$ perfective

Target: [$_{VP}$ perfective

(95) a. *Antecedent:[$_{AspP}$ secondary imperfective [$_{VP}$ derived perfective [$_{VP}$ perfective

Target: [$_{VP}$ imperfective

b. *Antecedent: [$_{VP}$ derived perfective [$_{VP}$ perfective

Target: [$_{VP}$ imperfective

(96) * Antecedent: [$_{\mathbf{VP}}$ derived perfective [$_{VP}$ imperfective

Target: [$_{VP}$ imperfective

Let us now consider the difference between finite and non-finite root imperfective antecedents under aspectual matching. First, recall that finiteness mismatches are not always problematic – infinitival antecedents, which did not tolerate finiteness mismatches in (92b), repeated in (97a), actually allow for the mismatch as soon as they match in polarity with the target, as in (97b,c) (as also discussed in section 3.1). This indicates that finiteness mismatches are actually possible, hence this cannot be what is at issue here. Rather, there must be something special about participial antecedents of root imperfectives, and only of this aspectual specification, that is responsible for the unacceptability of (92a).

(97) a. *Ivan čita knjigu, a Petar neće ~~čitati knjigu~~.

Ivan reads book, but Petar won't read.**impf.**inf. book

'Ivan is reading the book, but Petar won't be (reading the book).'

b. Ivan čita knjigu, a i Petar će ~~čitati knjigu~~.

Ivan reads book, and too Petar will read-**impf.**inf book

'Ivan is reading the book, and Petar will be (reading the book) too.'

c. Ivan ne čita knjigu, a ni Petar neće ~~čitati knjigu~~.

Ivan not reads book, and nor Petar won't read-**impf.**inf book

'Ivan isn't reading a book, and Petar won't be (reading the book) either.'

One tentative solution at this point is as follows: Assuming a featural matching requirement for ellipsis, I suggest that a feature F (whose nature I speculate on below) is responsible for the difference between these two forms. To be more specific, I propose that feature F is present only with non-finite forms and not with finite root imperfectives (note that there is no real finiteness difference here). At this point I can only suggest that, in the case of participles, this feature is present at the level of the evaluation of feature identity, making the participle VP and finite VP featurally distinct, whereas with infinitives, the feature is introduced after the point when featural identity between the antecedent and the target is evaluated. In what follows, I illustrate what the nature of this feature would be.

(98)

finite root imperfectives: $V_{\{impf.\}}$
non-finite root imperfectives: $V_{\{impf., F\}}$

Consider now ellipsis where there seem to be discrepancies between finite and non-finite antecedents:

Antecedent		**Availability of ellipsis of non-finite secondary imperfective target**
Finite morphological present antecedents	root perfective	Acceptable, but better with infinitive than with participle targets
	derived perfective	Acceptable (slightly dispreffered) only with participle targets
Finite Aorist antecedents	root perfective	√
	derived perfective	√
Non-finite antecedents	derived perfective	√
	root perfective	Only with Past Perfect interpretations

Table 2: Availability of ellipsis with finite and non-finite antecedents

Table 2 indicates that Aorist forms are more permissive antecedents than morphologically present tense antecedents with certain aspectual mismatches.[86] Regarding the present tense

[86] Note that the comparison includes only perfective antecedents, since Aorist forms are derived almost exclusively from perfective verbs. For more details, see Chapter 4.

forms, it should be noted that only in certain cases, and only with participial targets (as shown in (92a) and in Table 2), those are somewhat intolerant. It is possible that what we have seen with root imperfectives can be extended to other forms in Table 2 − the mismatching feature is indeed located in the participial forms, causing the trouble with finite forms. Under that line of reasoning, one possibility is that Aorist, which is a "more permissive" antecedent, is featurally more similar to non-finite forms than to present tense.

As will be argued in Chapter 4, the actual difference between Aorist and traditional past tense forms in Serbian, i.e. the Auxiliary + participle forms, is in the overt presence of the Auxiliary in the case of latter. It may then be that, although a synthetic form on the surface, Aorist contains the Perfect component which is phonologically null. This component is responsible for the backward-shifting of Aorist, as argued in Chapter 4.[87] In other words, I propose that Aorist is structurally similar to forms denoting past interpretations in Serbian, with a difference in the form of the participle and the overt presence of the Auxiliary in the case of the latter. This, in turn, may mean that Aorist is more similar to non-finite forms than to present tense forms, and explain why Aorist allows more freely for VP-ellipsis of non-finite VPs than its morphological present counterpart. More specifically, it may be the case that with Aorist forms, like in the case of participles, the lexical verbs enters into a feature checking relation with the Auxiliary (see Bošković 1997). This feature is then present in both the participle and the Aorist forms, in turn allowing for feature matching, making them more tolerant antecedents than the present tense forms. This Aux feature can then be the F feature in (98).

Once again, it should be noted that, despite the mismatches in Table 2, there is a large uniformity between finite and non-finite antecedents when it comes to the availability of ellipsis

[87] In chapter 4, I also suggest that Russian past forms, despite being synthetic, should be analyzed as consisting of a null auxiliary and a participle (see also Pitsch 2015).

of non-finite targets. At this point, I suggest that, when the exceptional cases arise, other features such as the Aux feature are responsible for the discrepancy, but further research should determine the exact nature of these features with participial and infinitival forms, as well as with Aorist if the suggestions above are on the right track. Finally, it remains to be established why under the mismatch between derived perfectives and secondary imperfectives, only participle targets may be acceptable, while under the mismatch between root perfective and secondary imperfectives, only Pluperfect targets are felicitous.

3.7 Conclusion

In this Chapter, I have explored how the aspectual specification of VP affects the availability of VP-ellipsis in Serbian. It was shown that VP-ellipsis is aspect-sensitive – it is not permitted with certain aspectual mismatches between the antecedent and the target. I have proposed that the discrepancies in the availability of VP-ellipsis under aspectual mismatches can be accounted for under a phase-constrained approach to ellipsis. More precisely, following Bošković (2014), I argued that, in order to be elidable, the target needs to be a "phase-privileged" domain, i.e. either a phase or a phasal complement. However, I proposed that in VP-ellipsis in Serbian the antecedent also plays an important role. More specifically, in addition to the target being "phasally relevant", its strict aspectual antecedent, i.e. the part of the antecedent that matches with the target in lexical and viewpoint aspect specifications, also needs to be either a phase or a phasal complement. Moreover, I proposed that the general paralelism requirement on ellipsis extends to a paralelism in terms of the phasal status between the antecedent and the target, i.e.

either both are phases or both are phasal complements. I showed with respect to VP ellipsis in Serbian that the requirements of 1) phasal relevance and 2) phasal parallelism successfully account for a number of seemingly unsystematic patterns involving ellipsis with aspectual mismatches.

In addition, I re-examined the role of finiteness in VP-ellipsis in Serbian, which Stjepanović (1997) claimed to be important for VP-ellipsis, i.e. she claimed that finite antecedents are more restrictive than the non-finite ones. I showed that this claim cannot be maintained, since there is large uniformity between finite and non-finite antecedents with non-finite targets. Instead, I showed that it is only root imperfectives, and participles in particular, that are peculiar.

To sum up, I have argued that VP-ellipsis in Serbian can be accounted for under an analysis where the phasal status of both the target and the antecedent contribute to the availability of VP-ellipsis. Furthermore, I showed that it is aspect, not finiteness, that restricts VP-ellipsis in Serbian, in accordance with the claim from Chapter 2 that Serbian is to be classified with TP-less languages regarding the availability of VP-ellipsis under finiteness mismatches. In particular, I showed that while Serbian tolerates "finiteness" mismatches under ellipsis, it does not tolerate aspectual mismatches.

3.8 Appendix

The following section illustrates the availability of ellipsis under aspectual mismatches given in Table 1.

1. Root imperfective antecedents

Root imperfective targets

(1) a. Aca je već čitao knjigu, ali Iva još nije ~~čitao knjigu/~~
Aca is already read.**impf**.part. book, but Iva still not.is read.**impf**.part. book
nikad neće ~~čitati knjigu.~~
never not.will read.**impf**.inf book
'Aca has already read the book, but Iva hasn't (read the book) yet/never will (read the book).'

b. *Aca čita knjigu, ali Iva nikad nije ~~čitao knjigu/~~
Aca reads.**impf**. book, but Iva never not.is read.**impf**.part. book
nikad neće ~~čitati knjigu.~~
never not.will read.**impf**.inf book
'Aca is reading the book, but Iva never has (read the book)/but Iva never will (read the book).'

Secondary imperfective targets

(2) a. *Petar je petkom bacao novine, a Jovan je sredom

Petar is Friday thrown**.impf**.part. newspaper and Jovan is Wednesday

~~izbacivao novine/~~ će sredom ~~izbacivati novine.~~

out.throw.**impf**.part. newspaper/ will Wednesday out.throw**.impf**.inf. newspaper

'Petar was throwing the newspaper (in the garbage) on Fridays, and Jovan was (throwing the newspaper out) on Wednesdays/ Jovan will be (throwing the newspaper out) on Wednesdays.'

b. *Petar petkom baca novine, a Jovan je sredom

Petar Friday throws.**impf.** newspaper and Jovan is Wednesday

~~izbacivao novine/~~ će sredom ~~izbacivati novine.~~

out.throw.**impf**.part. newspaper/ will Wednesday out.throw**.impf**.inf. newspaper

'Petar throws the newspaper (in the garbage) on Fridays, and Jovan was (throwing the newspaper out) on Wednesdays/ Jovan will be (throwing the newspaper out) on Wednesdays.'

Root perfective targets

(3) a. Petar je satima bacao novine, a Jovan je za čas

Petar is hours throw.**impf.**part. newspaper and Jovan is for moment

~~bacio novine/~~ će za čas ~~baciti novine.~~

throw.**pf.**part newspaper/ will for moment throw.**pf**.inf. newspaper

'Petar was throwing the newspaper (in the garbage) for hours, and Jovan threw it in a second/will throw it out in a second.'

b. *Petar petkom baca novine, a Jovan je tom prilikom

Petar Friday throws.**impf.** newspaper and Jovan is that occasion

~~bacio novine~~/ će tom prilikom ~~baciti novine.~~

throw.**pf.**part newspaper / will that occasion throw.**pf**.inf. newspaper

'Petar throws the newspaper (in the garbage) every Friday, and Jovan threw it at that point/ will throw it out that point.'

<u>Derived perfective targets</u>

(4) a. *Petar je satima bacao novine, a Jovan je za čas

Petar is hours thrown.**impf.**part newspaper and Jovan is for moment

~~izbacio novine~~/ će za čas ~~izbaciti novine~~.

out.throw-**pf.**part newspaper/ will for moment out.throw-**pf**.inf. newspaper

'Petar was throwing the newspaper (in the garbage) for hours, and Jovan threw it out in a second/ will throw it out in a second.'

b. *Petar petkom baca novine, a Jovan je tom prilikom

Petar Friday throws.**impf.** newspaper and Jovan is that occasion

~~izbacio novine/~~ će tom prilikom ~~izbaciti novine.~~

out.throw-**pf.**part newspaper / will that occasion out.throw-**pf**.inf. newspaper

'Petar throws the newspaper (in the garbage) every Friday, and Jovan threw it out at that point/ will throw it out at that point.'

Superlexical perfective targets

(5) a. *Petar je satima bacao novine, a Jovan je za čas

Petar is hours thrown.**impf.**part newspaper and Jovan is for second

~~poizbacivao novine/~~

cmpl.out.throw.**pf**.part. newspaper/

će za čas ~~poizbacivati novine.~~

will for second compl.out.throw-**pf**.inf. newspaper

'Petar was throwing the newspaper (in the garbage) for hours, and Jovan threw them all out in a second/ will throw them all out in a second.'

b. *Petar petkom baca novine, a Jovan je tom prilikom

Petar Friday throws.**impf.** newspaper and Jovan is that occasion

~~poizbacivao novine/~~

cmpl.out.throw.**pf**.part. newspaper/

će tom prilikom ~~poizbacivati novine.~~

will that occasion compl.out.throw-**pf**.inf. newspaper

'Petar throws the newspaper (in the garbage) every Friday, and Jovan threw them all out at that point/ will throw them all out at that point.'

2. Secondary imperfective antecedent

Root imperfective targets

(6) a. *Petar je petkom izbacivao novine, a Jovan je sredom
Petar is Friday out.throw.**impf**.part. newspaper and Jovan is Wednesday
~~bacao novine~~/ će sredom ~~bacati novine.~~
throw.**impf**.part. newspaper / will Wednesday throw.**impf**.inf. newspaper
'Petar was throwing the newspaper out on Fridays, and Jovan was throwing (the newspaper (in the garbage) on Wednesdays/ will be throwing it (in the garbage) on Wednesdays.'

b. *Petar petkom izbacuje novine, a Jovan je sredom
Petar Friday out.throws-**impf.** newspaper and Jovan is Wednesday
~~bacao novine/~~ će sredom ~~bacati novine.~~
throw.**impf**.part. newspaper / will Wednesday throw.**impf**.inf. newspaper
'Petar throws the newspaper out every Friday, and Jovan was throwing (the newspaper (in the garbage)) on Wednesdays/ will be throwing (the newspaper (in the garbage)) on Wednesdays.'

Secondary imperfective target

(7) a. Ivan je redovno pobeđivao Mariju, a Petar je povremeno

Ivan is regularly win.**impf**.part. Marija, and Petar is occasionally

~~pobeđivao Mariju~~ / će povremeno ~~pobeđivati Mariju~~.

win.**impf**.part. Marija / will occasionally win-**impf.**inf. Marija

'Ivan was defeating Marija regularly, while Petar was occasionally/will occasionally be (defeating Marija).'

b. Ivan redovno pobeđuje Mariju, a Petar je povremeno

Ivan regularly wins-**impf.** Marija, and Petar is occasionally

~~pobeđivao Mariju~~ / će povremeno ~~pobeđivati Mariju~~.

win.**impf**.part. Marija / will occasionally win-**impf.**inf. Marija

'Ivan keeps defeating Marija regularly, while Petar was occasionally/will occasionally be (defeating Marija).'

Root perfective target

(8) a. Aca je redovno pobeđivao Anu, a Iva je jedanput

Aca is regularly win.**impf**.part. Ana and Iva is once

~~pobedio Anu~~/ će ovaj put ~~pobediti Anu~~.

win.**pf**.part. Ana / will this time win-**impf.**inf. Ana

'Aca has always been defeating Ana, while Iva has (defeated Ana) once/ will (defeat Ana) this time.'

b. Aca redovno pobeđuje Anu, a Iva je jedanput ~~pobedio Anu~~/

Aca regularly wins.**impf.** Ana and Iva is once win.**pf**.part. Ana/

će ovaj put ~~pobediti Anu~~.

will this time win-**impf.**inf. Ana

'Aca is always defeating Ana, while Iva has (defeated Ana) once/ will (defeat Ana) this time.'

<u>Derived perfective target</u>

(9) a. Aca je satima izbacivao smeće, a Ana je za pola sata

Aca is hours out.throw.**impf**.part. trash and Ana is for half hour

~~izbacila smeće.~~

out.throw.**pf**.part. trash

'Aca was taking the trash out for hours, while Ana has (taken the trash out) in half an hour.'

b. Aca satima izbacuje smeće, a Ana je za pola sata ~~izbacila smeće/~~

Aca hours out.throws.**impf**. trash and Ana is for half hour out.throw.**pf**.part. trash

će u roku od pola sata ~~izbaciti smeće.~~

will in within from half hour out.throw.**pf**.inf trash

'Aca is regularly taking the trash out, while Ana has (taken the trash out) within half an hour/ while Ana will (take the trash out) within half an hour.'

Superlexical perfective targets

(10) a. *Aca je satima izbacivao flaše, a Ana je za pola sata

Aca is hours out.throw.**impf**.part. bottles and Ana is for half hour

~~poizbacila flaše/~~ će u roku od pola sata ~~poizbacivati flaše~~.

dstr.out.throw-**pf**.part. bottles/ will in within from half hour dstr.out.throw-**pf**.inf. bottles

'Aca was throwing the bottles out for hours, while Ana has (thrown all the bottles out) within half an hour/ while Ana will (throw all the bottles out) within half an hour.'

b. *Aca satima izbacuje flaše, a Ana je za pola sata

Aca hours out.throws.**impf**. bottles and Ana is for half hour

~~poizbacila flaše/~~ će u roku od pola sata ~~poizbacivati flaše~~.

dstr.out.throw-**pf**.part. bottles/ will in within from half hour dstr.out.throw-**pf**.inf. bottles

'Aca is throwing the bottles out for hours, while Ana has (thrown all the bottles out) within half an hour / while Ana will (throw all the bottles out) within half an hour.'

3.Root perfective antecedents

Root imperfective targets

(11) a. *Petar je juče položio ispite, a Marko je godinama

Petar is yesterday pass-**pf.**part. exams and Marko is years

~~polagao ispite~~/ će godinama ~~polagati ispite~~.

take.**impf.**part. exams/ will years take.**impf.**inf. exams

'Petar passed the exams yesterday, while Marko has (been taking them) in years/ while Marko will (be taking them) for years.'

b. *Petar iz prve položi ispite, a Marko je godinama

Petar from first passes.**pf.** exams and Marko is years

~~polagao ispite~~/ će godinama ~~polagati ispite.~~

take.**impf.**part. exams/ will years take.**impf.**inf. exams

'Petar passes the exams at once, while Marko has (taken the exams) for years/ while Marko will be (taking exams) regularly.'

<u>Secondary imperfective targets</u>

(12) a. Aca je jedanput pobedio Anu, a Iva je redovno

Aca is once win.**pf.**part. Ana and Iva is regularly

?? ~~pobeđivao Anu~~/ će uvek ?~~pobeđivati Anu~~.

win.**impf.**part. Ana/ will always win.**impf.**inf. Ana

'Aca defeated Ana once, while Iva was regularly (defeating Ana)/ will always be (defeating Ana).'

b. Aca ponekad pobedi Anu, a Iva je redovno

Aca sometimes wins.**pf.** Ana and Iva is regularly

?? ~~pobeđivao Anu~~/ će uvek ?~~pobeđivati Anu~~.

win.**impf.**part. Ana/ will always win.**impf.**inf. Ana

'Aca sometimes defeates Ana, while Iva was regularly (defeating Ana)/ will always be (defeating Ana).'

Root perfective targets

(13) a. Ivan je jedanput pobedio Mariju, a Petar je dvaput

Ivan is once win.**pf.**part. Marija, and Petar is twice

~~pobedio Mariju~~/ će dvaput ~~pobediti Mariju~~.

win.**pf.**part. Marija/ will twice win.**impf.**inf. Marija

'Ivan has defeated Marija once, while Petar has (defeated Marija) twice/ will (defeat Marija) twice.'

b. ?Ivan povremeno pobedi Mariju, a Petar je samo jedanput

Ivan occasionally wins-**pf**. Marija and Petar is only once

~~pobedio Mariju~~/ će samo jedanput ~~pobediti Mariju~~.

win.**pf.**part. Marija / will only once win.**impf.**inf. Marija

'Ivan defeats Marija from time to time, while Petar has (defeated Marija) only once/ will (defeat Marija) only once.'

Derived perfective targets

(14) a. *Aca je u petak bacio smeće, a Ana je u sredu

Aca is in Friday throw-**pf**.part trash and Ana is in Wednesday

~~izbacila smeće~~ / će u sredu ~~izbaciti smeće~~.

out.throw-**pf**.part trash / will in Wednesday out.throw-**pf.**inf. trash

'Aca throw the trash on Friday, while Ana took the trash out on Wednesday/ will take the trash out on Wednesday.'

b. *Aca svakog petka baci smeće, a Ana je u sredu

Aca every Friday throws-**pf**. trash and Ana is in Wednesday

~~izbacila smeće~~ / će u sredu ~~izbaciti smeće~~.

out.throw-**pf**.part trash / will in Wednesday out.throw-**pf.**inf. trash

'Aca throws the trash every Friday, Ana took the trash out on Wednesday/

will take the trash out on Wednesday.'

Superlexical perfective targets

(15) a. *Ana je u sredu bacila flaše, a Aca je u petak

Ana is in Wednesday throw-**pf**.part bottles, and Aca is in Friday

~~poizbacivao flaše~~ / će u petak ~~poizbacivati flaše.~~

compl.out.throw-**pf**.part bottles / will in Friday compl. out.throw-**pf.**inf. bottles

'Ana threw the bottles on Wednesday, and Aca has (thrown all the bottles out) /will

(throw all the bottles out) on Friday.'

b. *Aca ponekad baci flaše, a Ana je samo jedanput

Aca sometimes throws-**pf.** bottles and Ana is only once

~~poizbacivala flaše~~/ će samo jedanput ~~poizbaciti smeće.~~

dstr.out.throw-**pf**.part bottles / will only once dstr.out.throw-**pf.**inf. bottles

'Aca sometimes throws the bottles, and Ana has (thrown all the bottles out)/ will

(throw all the bottles out) only once.'

4.Derived perfective antecedents

Root imperfective targets

(16) a. *Aca je ovog puta izbacila smeće, a Ana je redovno

Aca is this time out.throw-**pf**.part. trash and Ana is regularly

~~bacala smeće~~/ će redovno ~~bacati smeće~~.

throw-**impf**.part. trash / will regularly throw-**pf.**inf. trash

'Aca took the trash out this time, while Ana was regularly (throwing the trash)/ will regularly be (throwing the trash).'

b. *Aca ponekad izbaci smeće, a Ana je redovno

Aca sometimes out.throws-**pf**. trash and Ana is regularly

~~bacala smeće~~ / će redovno ~~bacati smeće~~.

throw-**impf**.part. trash / will regularly throw-**pf.**inf. trash

'Aca sometimes takes the trash out, while was regularly (throwing the trash)/ will regularly be (throwing the trash).'

Secondary imperfective targets

(17) a. Aca je ovog puta izbacio smeće, a Ana je celog prošlog semestra

Aca is this time out.throw-**pf**.part. trash and Ana is entire last semester

~~izbacivala smeće~~/ će celog sledećeg semestra ??~~izbacivati smeće.~~

out.throw-**impf**.part. trash / will entire next semester out.throw-**pf.**inf. trash

'Aca took the trash out this time, while Ana was/ will be (taking the trash out) the entire next semester.'

b. Aca ponekad izbaci smeće, a Ana je redovno

Aca sometimes out.throws-**pf.** trash, and Ana is regularly

?? ~~izbacivala smeće~~ / će redovno ?? ~~izbacivati smeće.~~

out.throw-**impf**.part. trash / will regularly out.throw-**pf.**inf. trash

'Aca sometimes takes the trash out, while Ana was regularly / will regularly be (taking the trash out).'

Root perfective targets

(18) a. *Aca je u petak izbacio smeće, a Ana je u sredu

Aca is in Friday out.throw-**pf**.part. trash and Ana is in Wednesday

~~bacila smeće~~ / će u sredu ~~baciti smeće~~.

throw.**pf**.part. trash / will in Wednesday throw-**pf.**inf. trash

'Aca took the trash out on Friday, while Ana threw the trash on Wednesday/ will throw the trash on Wednesday.'

b. *Aca svakog petka izbaci smeće, a Ana je u sredu

Aca every Friday out.throws-**pf**. trash and Ana is in Wednesday

~~bacila smeće~~ / će u sredu ~~baciti smeće.~~

throw.**pf**.part. trash / will in Wednesday throw-**pf.**inf. trash

'Aca takes the trash out every Friday, while Ana threw the trash on Wednesday/ will throw the trash on Wednesday.'

Derived perfective targets

(19) a. Aca je u petak izbacio smeće, a Ana je u sredu

Aca is on Friday out.throw-**pf**.part. trash and Ana is in Wednesday

~~izbacila smeće~~ / će u sredu ~~izbaciti smeće.~~

out.throw-**pf**.part. trash/ will in Wednesday out.throw-**pf.**inf. trash

'Aca took the trash out on Friday, and Ana took the trash out on Wednesday/ will take the trash out on Wednesday.'

b. Aca povremeno izbaci smeće, a Ana je samo ovog puta

Aca sometimes out.throws-**pf.** trash and Ana is only this time

~~izbacila smeće~~ / će samo ovog puta ~~izbaciti smeće.~~

out.throw-**pf**.part. trash / will only this time out.throw-**pf.**inf. trash

'Aca sometimes takes the trash out, while Ana has (taken the trash out) only this time/ will (take the trash out) only this time.'

Superlexical perfective targets

(20) a. * Ana je u sredu izbacila flaše, a Aca je u petak

Ana is out.throw-**pf**.part. bottles and Aca is in Friday

~~poizbacivao flaše~~ / će u petak ~~poizbacivati flaše~~.

dstr.out.throw-**pf**.part bottles / will in Friday dstr.out.throw-**pf.**inf. bottles

'Ana threw the bottles out on Wednesday, and Aca has (thrown all the bottles out)/will (throw all the bottles out) on Friday.'

b. *Aca ponekad izbaci flaše, a Ana je samo jedanput

Aca sometimes out.throws-**pf.** bottles and Ana is only once

~~poizbacivala flaše~~ / će samo jedanput ~~poizbaciti flaše.~~

dstr.out.throw-**pf**.part bottles / will only once dstr.out.throw-**pf.**inf. bottles

'Aca sometimes throws the bottles out, and Ana has (thrown all the bottles out)/ will (throw all the bottles out) only once.'

5.Superlexical perfective antecedents

Root imperfective targets

(21) a. *Aca je ovog puta poizbacivao flaše, a Ana je redovno

Aca is this time dstr.out.throw-**pf**.part bottles and Ana is regularly

~~bacala flaše/~~ će redovno ~~bacati flaše.~~

throw-**impf**.part bottles/ will regularly throw-**impf.**inf. bottles

'Aca has thrown away all the bottles this time, and Ana was regularly /will regularly be (throwing the bottles).'

b. * Aca ponekad poizbacuje flaše, a Ana je redovno

Aca sometimes dstr.out.throws-**pf.** bottles and Ana is regularly

~~bacala flaše /~~ će redovno ~~bacati flaše.~~

throw-**impf**.part bottles/ will regularly throw-**impf.**inf. bottles

'Aca sometimes throws away all the bottles, and Ana was regularly /will regularly be (throwing the bottles).'

Secondary imperfective targets

(22) a. *Marija je ovog puta poizbacivala flaše, a Ana je redovno

Marija is this time dstr.out.throw-**pf**.part bottles and Ana is regularly

~~izbacivala flaše/~~ će redovno ~~izbacivati flaše~~.

out.throw-**impf**.part. bottles/ will regularly out.throw-**impf.**inf. bottles

'Marija threw out all the bottles this time, while Ana was (throwing the bottles out) regularly/ will be (throwing the bottles out) regularly.'

b. *Marija ponekad poizbacuje flaše, a Ana je redovno

Marija sometimes dstr.out.throws-**pf.** bottles and Ana is regularly

~~izbacivala flaše/~~ će redovno ~~izbacivati flaše~~.

out.throw-**impf**.part. bottles/ will regularly out.throw-**impf.**inf. bottles

'Marija sometimes throws all the bottles out, Ana was (throwing the bottles out) regularly/ will be (throwing the bottles out) regularly.

Root perfective targets

(23) a. *Aca je ovog puta ~~poizbacivao flaše~~, a Ana je prošlog puta

Aca is this time dstr.out.throw-**pf**.part bottles, and Ana is last time

~~bacila flaše~~ / će narednog puta ~~baciti flaše.~~

throw.**pf**.part. bottles/ will next time throw.**pf.**inf bottles

'Aca has thrown away all the bottles this time, and Ana threw the bottles last time /will throw the bottles next time.'

b. *Aca redovno ~~poizbacuje flaše~~, a Ana je samo ovog puta

Aca regularly dstr.out.throws-**pf.** bottles and Ana is only this time

~~bacila flaše~~ / će samo ovog puta ~~bacati flaše.~~

throw.**pf**.part. bottle/ will only time time throw.**pf.**inf bottles

'Aca regularly throws away all the bottles, and Ana has (thrown the bottles) /will (throw the bottles) only this time.'

Derived perfective targets

(24) a. *Aca je ovog puta ~~poizbacivao flaše~~, a Ana je prošlog puta

Aca is this time dstr.out.throw-**pf**.part bottles and Ana is last time

~~izbacila flaše~~ / će narednog puta ~~izbaciti flaše.~~

out.throw-**pf**.part bottles/ will next time out.throw-**impf.**inf. bottles

'Aca has thrown away all the bottles this time, and Ana threw the bottles out last time /will throw the bottles out next time.'

b. *Aca redovno ~~poizbacuje flaše~~, a Ana je samo ovog puta

Aca regularly dstr.out.throws-**pf.** bottles and Ana is only this time

~~izbacila flaše~~ / će samo ovog puta ~~izbacati flaše.~~

out.throw-**pf**.part bottles / will only time time out.throw-**impf.**inf. bottles

'Aca regularly throws away all the bottles, and Ana has (thrown the bottles out)/ will (throw the bottles out) only this time.'

Superlexical perfective targets

(25) a. Aca je u sredu poizbacivao flaše, a Ana je u petak

Aca is in Wednesday dstr.out.throw-**pf.** bottles and Ana is in Friday

~~poizbacivala flaše~~ / će u petak ~~poizbacivati flaše.~~

dstr.out.throw-**pf**.part bottles / will in Friday dstr.out.throw-**pf.**inf. bottles

'Aca threw all the bottles away on Wednesday, and Aca threw all the bottles away /will throw all the bottles away on Friday.'

b. Aca ponekad poizbacuje flaše, a Ana je samo jedanput

Aca sometimes dstr.out.throws-**pf.** bottles and Ana is only once

~~poizbacivala flaše~~ / će samo jedanput ~~poizbacivati flaše~~.

dstr.out.throw-**pf**.part bottles will only once dstr.out.throw-**pf.**inf. bottles

'Aca sometimes throws away all the bottles, and Ana has (thrown all the bottles away) /will (throw all the bottles away) only once.'

CHAPTER 4: TEMPORAL INTERPRETATION IN THE ABSENCE OF TP

This Chapter discusses how the central proposal of this thesis regarding the structural difference between TP and TP-less languages fares with respect to temporal interpretation. I demonstrate that temporal interpretation can be achieved through either Tense or Aspect, which means either traditional tense-dedicated or aspect morphology. In the light of a proposal hinted at Chapter 1 and discussed in more detail in Chapter 5 that the lack of temporal morphology leads to the lack of TP, the absence of temporal morphology in a language is expected to lead to rich aspectual morphology, which is needed to express temporal relations. Given the tendency to minimize redundancy, I also claim that languages with rich aspectual morphology tend not to have pure temporal morphology. As it will be shown, the richness of aspect is evident in a number of genetically unrelated languages which otherwise lack temporal morphology, such as Serbian, Chinese, Guaraní, Korean, Lillooet Salish, and others. In Chapter 5, I extensively discuss the hypothesis that the absence of temporal morphology is correlated with the absence of TP. However, the main goal of Chapter 4 is to show that the absence of TP does not pose a problem for deriving temporal interpretations in a language. On the example of Serbian, I show that this is indeed the case. I demonstrate that, in the absence of TP, temporal interpretations can be derived by means of perfective and imperfective aspect, aspectual component Perfect and the modal component *woll.* The main goal of this Chapter is then to ground the current proposal regarding the presence/absence of TP in a language semantically. In the course of the discussion, additional arguments will be provided for the lack of TP in languages like Serbian based on semantic considerations.

The Chapter is organized as follows: in section 4.1, I start the discussion of verbal morphology in Serbian, continuing it in more detail in Chapter 5. What is important to see is that, despite rich verbal morphology, Serbian does not have temporal morphology. It does, however, have rich aspectual morphology. I argue that this is a more general pattern, in that languages with rich aspectual morphology tend not to have pure temporal morphology. In section 4.2, I discuss distribution of aspect with forms receiving past interpretation. I demonstrate that in the absence of Tense in Serbian, so-called aspectual tenses, i.e. Aorist and Impefectum, observe aspectual restrictions. The same tenses, however, observe no aspectual restrictions in Bulgarian. I argue that the observed differences follow from the presence/absence of the TP-layer, i.e. TP-layer is present in Bulgarian, but absent in Serbian, based on the diagnostics from Chapter 1, and argued further in Chapter 5. Recall also that, as illustrated in Chapter 2, these two languages differ with respect to the availability of VP-ellipsis under finiteness mismatches. I thus argue that the parametric presence or absence of the TP-layer can provide a systematic explanation for these two seemingly unrelated phenomena. Furthermore, this section shows that different semantic properties of Aorist and Imperfectum forms in Serbian and Bulgarian, which have traditionally been labeled as tenses in both languages, indicate that these labels are very often misleading and call for their re-examination. The need for such re-examination is further supported in Chapter 5, which discusses the distribution of so-called past participles in Slavic languages and the distribution of Imperfectum forms in Romance languages. In section 4.3, I show that, in addition to forms receiving past interpretations, other two temporal interpretations, i.e. Utterance Time interpretations and future interpretations, can also be derived in the absence of TP in Serbian, with the means of aspectual and modal components. Section 4.4 shows that what have traditionally been analyzed as tenses in Serbian can receive a range of interpretations which

would otherwise be precluded if Tense were indeed present in the structure of these forms, thus providing further support for the lack of TP in Serbian. Section 4.5 shows that in aspectually rich languages lacking pure temporal morphology, perfective aspectual value requires special licensing in order to receive future interpretations. Section 4.6 concludes the Chapter.

4.1 Aspectually rich languages and the absence of TP

Serbian is a language with rich verbal morphology. In that respect, Serbian patterns for example, with Portuguese. However, Serbian differs in one important respect: despite the richness of verbal morphology, there are no morphemes that can be singled out as temporal markers. Instead, what is traditionally assumed to be tense morphology actually denotes agreement markers, as illustrated in Table 1 (based on Bošković 2012's examples). Regarding morphological present tense forms, there is no systematic affix that would indicate the presence of tense in these forms; instead, agreeement markers are added directly to the stem. Regarding Aorist and Imperfectum, the suffixes are, I argue, also agreement and aspectual markers. The detailed discussion of the morphological make-up of these forms is provided in Chapter 5. What is important is that there are no temporal markers with these forms.

	Present tense *uraditi* 'to do' (pf.)	Aorist *uraditi* 'to do' (pf.)	Imperfectum *orati* 'to plow' (impf.)
1sg	uradi-m	uradi-h	ora-h
2sg	uradi-š	uradi-ø	ora-š-e
3sg	uradi-ø	uradi-ø	ora-š-e
1pl	uradi-mo	uradi-s-mo	ora-s-mo
2pl	uradi-te	uradi-s-te	ora-s-te
3pl	urad-e	uradi-š-e	ora-h-u

Table 1: Inflectional paradigm of verbs in Serbian[88]

While temporal marking is not evident on the Serbian verbal forms, there is rich aspectual morphology, in fact, aspectual specification is obligatorily present on the verb (see also Chapter 3). In that sense, despite its rich verbal morphology, Serbian actually patterns with languages that lack overt morphology for tense, for instance, Chinese. As is well known, Chinese has an array of aspectual markers, as illustrated in (1) for the markers *le* and *gou* and in (2) for the markers *zai* and *zhe*, but it crucially lacks Tense markers. Although the precise nature of these aspectual morphemes is a matter of ongoing debate, there is a concensus in the literature that *le* and *guo* are closest to 'perfective' (or perhaps 'perfect') aspect interpretation, whereas *zhe* and *zai* characterize the situation as 'imperfective', 'progressive' or 'durative'.[89] Crucially, (1) and (2)

[88] As shown in section 4.2.3, Aorist is used with perfective aspect, and Imperfectum with imperfective aspect.

[89] The situation is far more complex, for instance, with regards to the type of the predicate affecting the distribution of these markers. See Chao (1968), Li and Thompson (1980), Smith and Erbaugh (2005), Lin (2003, 2006), Klein, Li and Hendriks (2000), among many others. Klein, Li and Hendriks (2000) for instance argue that, with some predicates, *guo* is similar in nature to English Perfect.

illustrate that, even in the absence of temporal morphology, temporal interpretation can be apparently successfully derived.

(1) a. Ta da le majiang.

she play le mahjong.

'She played/has played mahjong.'

(Smith and Erbaugh 2005:721)

b. Zhangsan chu-guo guo.

Zhangsan leave-guo country

'Zhangsan has been to other countries.'

(2) a. Lisi zai chuan yi-jian qunzi.

Lisi zai put-on one-cl skirt

'Lisi is putting on a skirt.'

b. Lisi chuan-zhe yi-jian quinzi.

Lisi wear-zhe one-cl skirt

'Lisi wears a skirt.'

(Klein, Li and Hendriks 2000:727)

Recall now from Chapter 1, that there is a parallelism between the presence/absence of the DP and the TP projection along the lines of morphological realization, where systematic absence of a particular type of morphology may be a reflex of structural deficiency. Recall also from Chapter 1 that there are many analyses of a number of individual languages that lack temporal morphology which have at their core the idea of the absence of the TP layer, for example

regarding Yukatek Maya (Bohnemeyer 2002), Chinese (Lin 2003, 2006), Halkomelem Salish (Wiltschko 2003, Ritter & Wiltschko 2005; cf. Matthewson 2005), Paraguayan Guaraní (Tonhauser 2011), Slovene, Czech, Slovak, Polish, Serbian (Migdalski 2013), Russian (Jung & Migdalski 2014), Hausa (Mucha 2013), Turkish (Zanon 2014), Korean (Kang 2014); cf. Matthewson 2006 for Lillooet Salish; see also Bošković 2012 for a broader claim; cf. also Ritter and Wiltschko 2014). In this Chapter, I explore in detail the idea that TP is systematically absent in all languages that lack pure temporal morphology. What is important for the current purposes is that the relevant properties of all these languages reveal an important correlation which holds for a wide array of languages. Namely, temporal interpretations can be conveyed through either Tense or Aspect, which means either traditional tense-dedicated or aspect morphology. Assuming that the absence of temporal morphology in a language indeed indicates the lack of TP, the absence of temporal morphology in a language should lead to rich aspectual morphology, which is needed to express temporal relations. In fact, given the tendency to minimize redundancy, languages with rich aspectual morphology should then tend not to have pure temporal morphology (note that this may be a one-way tendency).[90]

This is indeed the unifying property of the languages listed above. The richness of aspectual markers was illustrated in (1) and (2) for Chinese. Examples (3)-(5) illustrate that Slavic languages are also aspectually rich (for more details on temporal interpretations in these

[90] In some languages which are traditionally assumed to have temporal morphology, there are morphemes that are ambiguous between present and past interpretations, such as in Hua, Gungbe, Rukai, Tuwali. The status of such temporal morphemes should be reconsidered. Indeed, Harley (2008) argues that in Tuwali, what is traditionally labeled as non-future forms actually denotes perfective aspect (but see Matthewson 2006 for Lilloet Salish).
There are also languages where temporal morphology is argued to be optional, or not to be part of inflectional morphology, or not to necessarily contribute temporal meaning, on the basis of which these languages have been argued to be tenseless, such as Baffin Island and Arctic Quebec Inuktitut (Shaer 2003) and West Greenlandic (Bittner 2005); but see Hayashi and Spreng (2005) for a different view. Note also that Inuktitut lacks articles, which classifies it as an NP language (cf. Chapter 1), and which can, according to the idea of structural parallelism across domains, classify it as a TP-less language.

languages, see Chapter 5). Similarly to Serbian, there is an array of aspectual affixes in all these languages, in addition to aspect being specified on the root.

(3) a. Miha prepisova pisma (Slovenian)

Miha rewrites.**impf**. letter

'Miha is rewriting (the) letters.'

b. Miha vsak dan <u>pre</u>piše pismo.

Miha every day rewrites.**pf**. letter

'Miha rewrites a letter every day.'

(4) a. Michał pisze listy. (Polish)

Michael writes.**impf**. letters

'Michael is writing letters.'

b. Michał przepisze jeden list dziennie.

Michael rewrites.**pf**. one letter daily

'Michael will rewrite a letter a day.'

(5) a. Misha pishet pis'mo. (Russian)

Misha writes.**impf**. letter.

'Misha is writing a letter.'

b. Misha napishet pis'mo.

Misha writes.**pf** letter.

'Misha will write a letter.'

In addition, in Paragyan Guaraní, there is also an array of affixes both in the nominal and in the verbal domain, as discussed by Tonhauser (2006, 2009); *kue* in (6a) is what she refers to as terminative nominal marker, *rã* in (6b) is a prospective nominal marker, and *–ta* in (6c) is a prospective verbal marker.[91]

[91] Recall from Chapter 3 that in Chinese aspect is not always overtly realized, as illustrated in (i) and (ii) (the same holds for Korean and Inuktitut, *i.a.*). Importantly, as Lin (2003, 2005) and Smith and Erbaugh (2005) show, even when there is no overt aspectual marker in Chinese, temporal and aspectual information can be derived on the basis of the telicity of the verb and/or temporal adverbials; telic verbs have perfective viewpoint aspect, and receive past temporal interpretation, whereas atelic verbs have imperfective viewpoint aspect, and receive present temporal interpretation (see Chapter 3 for a formal analysis by Bohnemeyer and Swart (2004)). In what follows, I discuss in more detail the tendency of perfective to receive past interpretation cross-linguistically.

(i) Zhangsan dapuo yi-ge huaping.
Zhangsan break one-cl vase
'Zhangsan broke a vase.'

(ii) Wo xiangxin ni.
I believe you
'I believe you.' (only present)
(Lin 2006)

A question that arises is whether the absence of overt aspectual morphology correlates with the absence of AspP, in a similar vein in which I argue the absence of temporal morphology indicates the absence of the TP-layer (recall that this option is in principle possible in Bohnemeyer and Swift's analysis). One way of testing this, to be explored more in future work is the following: In Serbian, in addition to lexical aspect, viewpoint aspect is also present in the structure, which can be supported by the (im)possibility of certain temporal interpretations depending on the aspectual specification of the predicate – the viewpoint aspect, in particular perfective aspect, restricts temporal interpretations (see section 4.3.1; see also Todorović 2015b, 2015c). And viewpoint aspect is standardly assumed to be located in AspP. In addition, VP-ellipsis in aspectual mismatches discussed in Chapter 3 indicates that there is a clear cut between the two aspectual domains, i.e. lexical and viewpoint domain in Serbian. In light of this, restrictions on e.g. perfective aspect can be tested in cases like Chinese in (i) and (ii), where there are no overt aspectual markers. If the same effects obtain that are otherwise observed in cases with overt aspectual morphology, and if the locus of viewpoint is AspP, then there would be a strong indication that AspP is present in the structure, despite its overt absence (see section 4.5.1 for some contexts and a potential analysis).

(6) a. Jagua-ndadje o-kuaru o-nãkamby-pe'a-há-pe, yma

dog-say A3-urinate A3-spread.legs-open-nom-pe long.time.ago

ho'a-gui-ve hi'-ári pare-**kue** peteĩ fárra-há-pe.

A3.fall-gui-ve 3-on wall-kue one party-nom-pe

'It is said that dogs urinate with their legs spread open (one up) because a long time ago an old wall fell onto a dog at a party.'

b. O-ho peteĩ arriéro o-jeruré-vo la h-embireko-rã-re.

A3-go one man A3-ask.for-atla 3-wife-ra-re

'A man went to ask for his future wife.'

(Tonhauser 2006:4)

c. Ja' u´-ta-re ko gánso ko'ẽro, a-juka ko ka'arú-pe.

A1pl.incl-eat-prosp-for this goose tomorrow A1sg-kill this afternoon-at

'Since we are going to eat this goose tomorrow, I will kill it this afternoon.'

(Tonhauser 2011: 274)

Note that there might be further indication that the co-occurrence of aspect and tense is indeed redundant. Namely, according to Dahl (1985), Bybee et al. (1994), the co-occurrence of past tense morphology with verbs specified for perfective is very rare cross-linguistically. In fact, an examination of World Atlas of Language Structures (WALS) indicates that in a number of languages, past tense morphology tends to co-occur only with imperfective aspect – from 26 examined languages, 19 observe such aspectual restrictions and 7 do not (but see below).[92] Some

[92] WALS lists 60 languages as having past tense and aspect co-occurring. However, in some of them, past tense is either non-distinct from present tense or what is labeled as perfective does not observe semantic characteristics of

languages whose past morphology is restricted to imperfective verbs are Maltese, Georgian, Persian, Eastern Armenian, etc. Regarding perfective, it is taken to refer to completed events (Dahl 1985, Bybee et al. 1994) and in a number of languages, the perfective itself denotes past interpretations (e.g. Karaboro, Rukai).[93] In such cases, past morphology seems to be redundant, which would explain why, most commonly, perfective verbs are incompatible with past tense morphology. Importantly, even among the 7 languages that permit co-occurrence of past tense and perfective aspect, 2 languages impose Pluperfect interpretations in such instances (Slavey and Karaboro), which indicates that both past tense and what is labeled as perfective aspect make semantic contribution of past; this also explains their co-occurrence.[94]

Regarding the situation in Serbian, note that what has traditionally been analyzed as past tense allows for either aspectual specification (7) (as argued in more detail in section 4.2):

---

perfective. When such instances are not considered, the number of languages is 55. The examination of the remaining languages from that group is under way.

[93] In some of these languages, it is also possible for the perfective to occur in non-past contexts (for a detailed discussion on the non-past distribution of the perfective and the corresponding environments, see section 4.5).

[94] Achievements in Inuktitut also receive perfective interpretation (Bohnemeyer and Swift 2004, Swift 2005, Hayashi and Spreng 2005) and are interpreted as past. Interestingly, Hayashi and Spreng (2005) observe that without a past marker, they can only denote recent past, i.e. the events that finished right before the Utterance time, whereas only with the use of past markers, a predicate can denote an event that happened before, e.g. earlier that day or the day before, respectively (Inuktitut is a language that marks remoteness in past interpretations). This situation is then very similar to what we see with Slavey and Karaboro – although a perfective verb can occur with a past tense marker, they are both semantically contentful, i.e. they both contribute past interpretation and are thus not mutually exclusive.

(7) a. Jovan je radio domaći.

Jovan is do.**impf**.part. homework

'Jovan was doing his homework.'

b. Jovan je uradio domaći.

Jovan is do.**pf**.part. homework

'Jovan finished his homework.'

Suppose now that, based on the pattern in (7), we try to determine the co-occurrence of traditional tense and aspect in Serbian. Importantly, if there is a relatively equal distribution of imperfective and perfective aspect with past tense, then, given the cross-linguistic tendency of incompatibility of past and perfective, this would be an additional indicator that what has been traditionally considered past tense in Serbian should not be analyzed as such.[95] Interestingly, the results of the analysis of Corpus of Contemporary Serbian (version SrpKor2013)[96] reveal exactly that. The analysis was performed on the annotated corpus of contemporary Serbian which contains 122 million words from a variety of literary texts. The number of excerpts was 1000, each of which contained on average 3 sentences. Within 1000 excerpts, the number of past tense forms was 2202. The results of the analysis are as follows: out of 2202 forms, 1215 were perfective and 987 were imperfective. In terms of percentage, 55% of those forms were perfective and 45% were imperfective. This result is important because it shows that there is a relatively equal percentage of both forms; this points in the direction of not analyzing past tense

[95] Note that, unlike Tense, perfective-imperfective morphology is clearly indicated on the verb, by being contained in the root and in the derivational and/or inflectional morphology.

[96] Vitas. D. and M. Utvić. 2013. Corpus of Contemporary Serbian (version SrpKor2013) Human Language Technologies Group, University of Belgrade (http://www.korpus.matf.bg.ac.rs).

as real tense in Serbian, given the above tendencies. This same method can then be used to test traditional tenses in other aspectually rich languages.

Another interesting prediction regarding the co-occurrence of perfective aspect and past morphology is as follows: if perfective alone can sometimes denote past interpretations without co-occurring with past morphology in a language, and if temporal morphology is an indication of the presence of TP (as discussed in Chapter 5), one could argue that TP is not always projected in one and the same language. More specifically, TP would only be projected in the presence of past morphology, but it would not be projected otherwise, i.e. when perfective alone is responsible for past interpretations and there is no overt past morphology (cf. for instance fn. 94). Similar idea of structural variation within one and the same language has been proposed for the projection of DP in Bulgarian. In particular, Shen (2014), based on Pancheva and Tomaszewicz's (2012) observation that the definite article is not obligatory in Bulgarian superlatives ((8) vs. (9)), argues that DP is also absent in those instances; he shows that the interpretation in (10b) which is only available in Bulgarian when articles are not present, is available only in NP languages, but not in DP language (see Shen 2014 for an account). Different type of evidence along these lines for Bulgarian comes from Dubinsky & Tasseva-Kurktchieva (2014) and Talić (2015), who, on the basis of certain extraction patterns, argue that DP is not always projected in Bulgarian;[97] Talić in fact essentially argues that DP layer is projected only when it is morphologically manifested.

[97] The authors in question show that certain extractions that are allowed only in NP languages are possible in Bulgarian in the absence of overtly manifested DP projection.

(8) Ivan ima naj-dobri-te albumi ot U2.

Ivan has superlative-good-the albums by U2

'Ivan has the best albums by U2.'

(Pancheva and Tomaszewicz 2012:296)

(9) Ivan ima naj-dobri albumi ot U2.

Ivan has superlative-good albums by U2

'Ivan has the best albums by U2.'

(Pancheva and Tomaszewicz 2012:295)

(10) a. 'Ivan has better albums by U2 than anyone else does.' ((8) and (9))

b. 'Ivan has better albums by U2 than by any other band.' (only (9))

What the above authors argue for, more broadly, is that of the availability of certain phenomenon in a language correlates with the absence/presence of a certain structural layer. In section 4.2, I will show the same idea can be further supported by the differences in the distribution of aspect with so-called aspectual tenses in Serbian and Bulgarian, for which I argue the responsibility lies in the presence of TP in Bulgarian and the absence of TP in Serbian.

4.2 Distribution of Aspect with forms receiving past interpretation in Serbian

This section describes forms which receive past interpretations in Serbian, and which have traditionally been analyzed as past tense forms, i.e. periphrastic past, Pluperfect, Aorist and Imperfectum. It is observed that, in terms of aspectual specifications of these forms, the

perfective and the imperfective freely co-occur with periphrastic past and Pluperfect, whereas Aorist surfaces only with perfective aspect and Imperfective only with imperfective aspect. I argue that these restrictions follow from the absence of TP in Serbian. Furthermore, in section 4.2.4, I show that there are differences between Serbian and Bulgarian when it comes to aspectual restrictions – unlike Serbian, Bulgarian freely allows for either aspectual value with Aorist and Imperfectum. I argue that the differences between the two languages follow from the difference in the presence of TP – Serbian lacks the TP layer, whereas Bulgarian is a TP language (see also Chapter 5).

4.2.1 Periphrastic past

In Serbian, past interpretations are most typically obtained with periphrastic past forms, which contain a clitic of the Auxiliary *Be* and a participle, as in (11).[98] As a most natural way to convey past interpretations, this form covers a range of interpretations corresponding to both English Simple Past, as in (11), and Present Perfect, as in (12).

[98] Note that I use the term 'periphrastic past' for the ease of exposition. As it will be shown in section 4.2.7, I do not assume semantic past tense in the structure of these forms. This is further supported by the possibility of their non-past interpretations, as discussed in section 4.4.2.

(11) Prošlo leto je otišao na žurku na Ibici.

last summer is go-part.masc.sg on party on Ibiza

'Last year he went to a party on Ibiza.'

(12) Šta radiš? Ma izgubio sam ključeve, pa gledam gde su.

what does? ptcl. lose-part.masc.sg am keys so look-1.sg. where are

'What are you doing?' 'I've lost my keys, so I am looking for them.'

In addition, differences in aspect bring in differences in interpretations with these forms, which include, but are not limited to, completion of the event or the lack thereof, as in (13); perfective aspect in (13a) indicates that the event was completed at some point in the past, whereas imperfective aspect in (13b) shows that the event was in progress at some point in the past.

(13) a. Jovan je uradio domaći.

Jovan is do.**pf.**part. homework

'Jovan finished his homework.'

b. Jovan je radio domaći.

Jovan is done.**impf.**part. homework

'Jovan was doing his homework.'

Importantly, despite the differences in the interpretation brought by aspect, both aspectual specifications can freely co-occur with these forms. As it will be shown, Aorist and Imperfectum in Serbian do not allow for such free distribution of aspect.

4.2.2 Pluperfect

Another periphrastic form deriving past interpretations is Pluperfect. Pluperfect is formed with the (present form of) Auxiliary *Be*, participle of *Be*, and participle of the lexical verb, as in the main clause in (14).

(14) Kad je Marija ušla, Jovan je već bio sakrio poklon.
when is Marija entered, Jovan is already been hide.**pf.**part. present
'When Marija entered, Jovan had already hidden the present. (So, she didn't see it).'

Pluperfect is becoming archaic and it is rarely used nowadays. However, when used, it locates the predicate relative to a particular reference time interval, i.e. the time interval for which a statement is restricted (see Reichenbach 1947, *i.a.*), and which, in the case of Pluperfect is established either by another past event or by a time adverbial.[99] In both cases, the aspectual specification of the verb plays an important role in determining its interpretation.[100]

When the reference time interval is established by another event, Pluperfect perfective verb refers to an event that was completed prior to that event in the past, as in (15a), whereas Pluperfect imperfective verb refers to an event that was in progress when the another event occurred, as in (15b). These interpretations arise with non-stative, non-generic, episodic (henceforth eventive predicates).

[99] Note that I resort to this term as it is a widely-used one. However, assertion time from Klein (1995) and Demirdache & Uribe-Extebarria's (2004 et seq.) would be equally applicable.
[100] Nowadays, periphrastic past is more commonly used for the interpretations otherwise obtainable by Pluperfect (which is predicted by the analysis in section 4.4.2). Still, speakers prefer using Pluperfect form when they want to emphasize that certain event was completed prior to a particular reference time interval or when they want to emphasize that some event (or state) took place at distant past.

(15) a. Kad je Marija ušla, Jovan je već bio sakrio poklon.

when is Marija entered, Jovan is already been hide.**pf.**part. present.

'When Marija entered, Jovan had already hidden the present. (So, she didn't see it)'

b. Kad je Marija ušla, Jovan je bio sakrivao poklon.

when is Marija entered, Jovan is been hide.**impf.**part. present.

'When Marija entered, Jovan was hiding the present.(So, the surprise failed.) '

When it comes to time adverbials which serve as the reference time interval for Pluperfect, they usually denote some period in the distant past. With regards to Pluperfect imperfectives, the length of time period introduced by adverbials does not matter – imperfective verbs denote an event that was in progress at a particular reference time interval established by the time adverbial, regardless of the length of that interval, as shown in (16a) and (16b), respectively. With perfective verbs, however, the duration of the adverbial is important: in (17), with an adverbial introducing a relatively long time interval, the event is contained within the interval, whereas short time interval adverbials either mark the point when the event was completed (18a), or the point prior to which the event is completed (18b).[101,102]

[101] As discussed in section 4.3.1, perfective verbs in Serbian are banned in the environments which introduce a relatively short reference time interval with respect to which perfective needs to be ordered (see section 4.3.1 and section 4.5.2; see also Todorović 2015b,c). Now, if the length of the reference time interval is crucial in the distribution of perfective aspect, suppose then a scenario where the time adverbial introduces a short time interval, but the event that needs to be located with respect to it is also short. If the core of the clash is the discrepancy between short time interval and lengthy events, then, in this scenario, the conflict in principle should not arise. A natural candidate here are semalfactives, which denote punctual verbs. The Pluperfect example in (i) shows that this interpretation is indeed attested.

(i) Petar je u tom trenu bio kinuo.
Petar is in that point been sneeze.pf.part.
'Petar sneezed at that point.'

[102] Some speakers find examples in which a clause introduces the reference time interval for Perfect as in (15) more natural than the example where the reference time interval is introduced by an adverbial, as in (16-18).

(16) a. Jovan je onomad bio radio u toj fabrici.

Jovan is back.then been work.impf.part. in that factory

'Jovan had been working in that factory back then.'

b. Jovan je u tom trenu bio razgovorao sa majkom.

Jovan is in that point been talk.impf.part. with mother

'Jovan had been talking to his mother at that moment.'

(17) Jovan je u to doba bio zaradio silne pare.

Jovan is in that period been earn.pf.part a.lot.of money

'Jovan had earned a lot of money during that period.'

(18) a. Jovan je u tom trenutku bio odrecitovao pesmicu.

Jovan is in that moment been recite.pf.part. poem

'Jovan finished his recital at that point.'

b. Jovan je u tom trenutku (već) bio odrecitovao pesmicu.[103]

Jovan is in that moment (already) been recite.pf.part. poem

'Jovan had already done his recital at that point.'

Crucially, despite the complex interplay of aspect and the reference time interval (established by a time adverbial or by another event in the sentence), which results in a wide array of interpretations, examples (15)-(18) show that Pluperfect forms can easily occur with either aspectual specification.

[103] Note that the presence of *već* 'already' forces the anteriority interpretation. It remains to be established in which way this adverbial affects the reference time interval (and affects the availability of perfective in question).

4.2.3 Aorist and Imperfectum

4.2.3.1 Aorist

In addition to periphrastic past and Pluperfect forms, Serbian also has Aorist and Imperfectum, which have traditionally been referred to as aspectual tenses, because they emphasize a particular aspectual component of the event. Migdalski (2006) observes that, among Slavic languages, these tenses, which were productive in Old Church Slavonic, are used productively only in Bulgarian (and Macedonian to some extent); other Slavic languages use a participle (and auxiliary) to capture various past interpretations – true past, Present Perfect and PluPerfect (see Chapter 5 for a detailed discussion). Migdalski's observation is, however, not correct for Serbian, in which Aorist is still productively used. Imperfectum, on the other hand, is archaic and almost never used today.

Focusing on Aorist in Serbian, it emphasizes the punctuality of the event, as in (19), and the completeness of the event, as in (20).[104] Since it denotes punctuality, Aorist increases the dynamics of the conversation (see also Arsenijević 2013, Halupka-Rešetar and Todorović 2014), so it is very common for a speaker who is retelling past events to suddenly switch from a periphrastic past form (which is neutral in terms of dynamics) to Aorist, in order to make the narration more vivid.[105,106]

---

[104] Note that Aorist can also be combined with verbs that denote the onset of the event, as in (i). In this particular case, completeness can be seen as the completeness of the onset stage of the event.

(i) On tada tako glasno zapeva...
he then that loudly for.sing-aor.
'He then started singing so loudly...'

[105] Historical present is also used for vivid narration, and similarly to Aorist, it is often used instead of periphrastic past to make the narration more vivid. Given that the present form here occurs with past interpretations, this can be

(19) U tom trenu ga odalami tako jako...

in that moment him-cl slam-1.sg.aor that strongly

'And then (s)he slammed him with such a force...'

(20) (Konačno) napisah domaći!

finally write-1sg.aor. homework

'I've finally finished my homework!'

The punctuality and the completeness of the event stem from aspectual restrictions that are observed with Aorist. Unlike periphrastic past and Pluperfect, Aorist in Serbian is restricted only to one aspect, i.e. perfective. This is illustrated in (21), where Aorist is grammatical with perfective, but ungrammatical with imperfective verbs.[107]

(21) a. Stiže Jovan!

arrive.**pf**.aor Jovan

Jovan arrived!'

b. *Stiza Jovan!

arrive.**impf**.aor Jovan

*'Jovan was arriving!'

---

taken to provide further evidence that this form is not necessarily tied to the Utterance Time in terms of its interpretation (see also section 4.5.2). I leave for future endeavors establishing how past interpretations arise with these forms, i.e. which component is responsible for that.

[106] The effect of vivid narration is also due to Aorist bringing in the effect of something that the speaker, but not the hearer, has actually actually witnessed. It is thus somewhat pragmatically odd to use Aorist with second person, since the hearer (or the hearers) has also witnessed the events.

[107] Another peculiarity of Aorist is that it tends to resist embedding; it embeds in a limited set of contexts and with a limited set of verbs. For the time being, I leave aside this type of restrictions.

Regarding the nature of Aorist, I suggest that it should be treated as Aspect rather than Tense in Serbian, which is also consistent with the analysis in section 4.2.6. There have actually been claims that there are counter-examples of (21). However, on closer scrutiny, they turn out not to be; they in fact provide further support for the claim made in this Chapter. More specifically, some traditional grammars (e.g. Stanojčić and Popović 1992) list examples in which Aorist is used with imperfective aspect, although it is claimed that these examples are severely limited. However, in most cases, those forms are actually instances of Imperfect, rather than Aorist. Namely, the listed examples all occur in first person singular. As the example in (22) indicates, the difference between Aorist and Imperfect in the first person singular is only in one vowel, i.e. /o/ for Aorist and /a/ and /i/ for Imperfect (depending on the final vowel of the stem). However, as soon as we look at the second or third person singular in (22), the difference in the morphological output between Aorist and Imperfectum becomes more striking. With certain verbs, when we try to combine second and third person singular of Aorist with imperfective aspect, what we get is an ungrammatical form, as in (23). Thus, such apparent examples of aspectually unrestricted Aorist cannot be obtained.

(22) Aorist for *doći*-pf. 'to arrive'

sg.	pl.
1.dođoh	1. dođosmo
2.dođe	2. dođoste
3.dođe	3. dođoše

Imperfectum for *raditi*-impf. 'to work'

sg.	pl.
1.radih	1. radijasmo
2.radiše	2. radijaste
3.radiše	3. radijahu

(23) Aorist + imperfective:

2.sg, 3.sg : *radi (*raditi*-impf. 'to work')

More plausible candidates for licit Aorist + imperfective combination is a verb often given in the literature, *čitati* 'to read'. With this verb, the first person singular in Aorist and Imperfectum has the same form, as shown in (24). To the extent that second and third person singular forms for verbs like *čitati* 'to read' in (24) are grammatical for some speakers, we should account for their distribution.

(24) Aorist for čitati 'to read'

sg.	pl.
1. čitah	1. čitasmo
2. čita	2. čitaste
3. čita	3. čitaše

Imperfectum for čitati 'to read'

sg.	pl.
1. čitah	1. čitasmo
2.čitaše	2. čitaste
3. čitaše	3. čitaše

In that respect, it should be noted that even when a seemingly imperfective verb derives Aorist, it is imposed a perfective interpretation, i.e. it is essentially imperfective semantically. In (25), the emphasis is placed on the completion of the event of reading.

(25) Do ovog časa čitah ovu zanimljivu knjigu.

until this hour read.**impf**.1.sg.**aor.** this interesting book

'Until this moment, I was reading this interesting book.'

(Stanojčić and Popović 1992:383)

This is strikingly similar to aspect stacking in Serbian, where the verb marked for, e.g. imperfective aspect can be perfectivized, and, further turned, by means of an affix, into an

imperfective verb, as in (26) (see also Chapter 2). Note that only aspect has this ability – Tense can never change aspectual properties of the predicate. Given that Aorist actually can do what is classified as an aspect-unique property, this provides another argument for Aorist being an Aspect, rather than Tense.

(26) pričati – pre[PFV]-pričati – pre[PFV]-priča-va[IMPFV]-ti
talk- **impf**.inf. retell-**pf.**inf retell-**impf**.inf

4.2.3.2 Imperfectum

The other so-called aspectual tense Imperfectum is archaic and almost never used today. However, traditional grammars describe it as denoting continuity, as in (27).

(27) Prizor je bio divan: pod planinskim vrhovima prostirahu se
sight is been gorgeous under mountain peaks spread.IM SE
tamne šume borova.[108]
dark forests pine.pl
'The view was amazing: endless forests of pine trees were spreading out below the mountain peaks...'

Like Aorist, Imperfectum also observes aspectual restrictions. However, unlike Aorist, Imperfectum is restricted to imperfective verbs, as illustrated by the contrast in (28).

[108] The example is based on Stanojčić and Popović (1992:384).

(28) a. Oni pecijahu hleb.

they bake.**impf**.IM bread

'They used to bake bread.'

b. *Oni ispecijahu hleb.

they bake.**pf**.IM bread

'They used to finish baking bread.'

Thus, in terms of aspectual specification, periphrastic past and Pluperfect, can easily combine with either aspect, whereas Aorist is restricted to perfective, and Imperfectum to imperfective aspect. In the next section, I will discuss the distribution of aspect in aspectual tenses in Bulgarian, and then provide an analysis for the distribution of aspect in this domain in both Bulgarian and Serbian.

4.2.4 Aorist and Imperfectum in Bulgarian

Consider now Bulgarian. Bulgarian has overtly realized aspect. It also has a rich array of forms receiving different temporal interpretations, which are discussed in detail in Chapter 5. The focus in this Chapter will be placed on Aorist and Imperfectum. Importantly, unlike Serbian, Bulgarian imposes no aspectual restrictions with Aorist and Imperfectum: both of them can occur with either imperfective or perfective aspect, as illustrated in (29) and (30), respectively. The striking difference in meaning between the two forms in (29) and the two forms in (30) is crucially

contributed by aspect, e.g. whether the emphasis is placed on the completion, or the lack thereof (Scatton 1984).

(29) a. Včera pročetoh edna kniga.
yesterday read.**pf**.1sg.aor one book
'Yesterday I read a book (and finished it).'

b. Včera četoh edna kniga.
yesterday read.**impf**.1sg.aor one book
'Yesterday I was reading a book.'

(30) a. Četjah kniga.
read.**impf**.1sg.IM book
'I was reading a book./I used to read a book.'

b. Vseki dan, pročetjah edna kniga.
every day read.**pf**.1sg.IM one book
'I used to read a whole book every day.'

It thus needs to be explained why there is a discrepancy between Serbian and Bulgarian in the distribution of aspect with Aorist and Imperfectum. I propose that these differences can be accounted for under the parametric approach to TP. As already discussed, Serbian lacks TP, but Bulgarian projects TP. (This is further supported in Chapter 5, where I return to the morphological make-up of Bulgarian tenses, showing that there is true temporal morphology in

finite forms, which, according to the analysis in that Chapter, confirms the TP status of Bulgarian (which is also a DP language). True temporal morphology is, however, absent in Serbian.

4.2.5 Bulgarian and Serbian Aspectual Tenses: An Account

The lack of aspectual restrictions in Bulgarian, I propose, can be accounted for by entertaining the following two assumptions. First, the major contribution of perfective and imperfective in (29) and (30) is aspectual, i.e. lexical aspect (telicity) and viewpoint (boundedness) (Scatton 1984), while the major contribution of Aorist and Imperfective is to locate the event in the past. This fits well with the observed difference between the forms in (29) and (30) where the events are located in the past, and the difference between the examples in (a) and (b) is indeed in terms of the boundedness of the event.

Secondly, the temporal component is computed in TP in Bulgarian, and the aspectual one in AspP. If such a division of labor is on the right track, then nothing in principle should prevent a possibility of combining aspectual tenses with either aspectual value in Bulgarian, correctly predicting their co-occurrence.[109]

[109] Note that Greek also makes use of Aorist and Imperfectum, and it patterns with Serbian in observing aspectual restrictions. Furthermore, Aorist and Imperfectum in Greek also pattern with Serbian in their distribution: they emphasize particular aspectual, rather than temporal, component, e.g. punctuality for Aorist and habituality for Imperfect. I thus propose that, like in Serbian, they are also aspects, rather than tenses (see e.g Comrie 1976; see also Chapter 5 for the distribution of Imperfectum in languages in which it behaves like a real tense).

In addition to the perfective/imperfective base, the relevant forms in Greek contain additional pieces of morphology (e.g. -oύ with Imperfectum forms in second conjugation), which based on the semantic distribution of Aorist and Imperfectum, should be classified as aspectual morphology. More generally, if the presence of temporal morphology is an indicator of the presence of TP in a language (as will be discussed in detail in Chapter 5), then Greek, in which forms of traditionally labeled tenses largely depends on aspect, has only one candidate that would classify it into a TP-group. In particular, the periphrastic Perfect forms when combined with an Auxiliary *have*

When it comes to aspectual restrictions in Serbian, I argue that it is precisely the absence of Tense that is prohibiting the co-occurrence of Aorist and Imperfectum with both aspectual specifications. More precisely, I propose that, due to the absence of Tense, Aorist and Imperfectum are aspectualized in Serbian, i.e. they highlight certain aspectual, rather than temporal properties (to be specified in the next section), these properties being responsible for the observed aspectual restrictions. This difference between Aorist and Imperfectum in the two languages raises one more important point – although these forms have traditionally been classified as tenses in both Serbian and Bulgarian, their semantic properties indicate that such labels are misleading. This indicates that traditional labels of verbal forms should be re-examined by using the relevant semantic criteria. The need to do so is further supported in Chapter 5, where I discuss the distribution of so-called past participles in Slavic languages, and the distribution of Imperfectum forms in Romance.

Finally, it should be noted that Macedonian, which also makes use of Aorist and Imperfectum, is starting to pattern with Serbian in terms of aspectual restrictions, as observed by Migdalski (2014): Aorist is the default tense for perfectives and Imperfectum for imperfectives. Migdalski also reports that this is a relatively recent change; it was possible to combine imperfective with Aorist until the middle of the twentieth century. Macedonian is thus starting to pattern with other Slavic languages that lost these tenses, and which, in his analysis lack TP. If restrictions on Aorist and Imperfectum forms can indeed be derived from the presence/absence of TP, as

---

produce Present Perfect or Past Perfect, respectively, where the Auxiliary in Past Perfect forms contains a constant piece of morphology which can be classified as a past tense marker (caveat: Past Perfect in Greek brings in the anteriority interpretation, which, as illustrated on the example of Serbian in section 4.2.2, can be argued to stem from the interaction between Perfect and perfective, i.e. it can be attributed to two aspectual components, rather than to a temporal component. Thus, more needs to be said about the nature of this form in Greek). Note that, even if Greek is to be classified as a TP language, this is *per se* not a problem for the above generalization about the distribution of aspect with aspectual tenses. Namely, this would indicate that we are dealing with a one-way generalization: if there is a TP, it does not need to be the case that the locus of Aorist must be TP, but if there is no TP, it cannot be.

Migdalski argues and as it is argued in this Chapter, this might indicate that Macedonian is in the process of losing Tense.

4.2.6 Interpretation of Aorist and Imperfectum in Serbian

Regarding Aorist in Serbian, I propose that, rather than emphasizing temporal component, it highlights the aspectual component, i.e. the completeness of the event or the punctuality of the event, as illustrated above in (19) and (20), and repeated below in (31) and (32). In other words, unlike in Bulgarian, where Aorist marks the past interpretation of the event, Aorist in Serbian emphasizes particular aspectual properties of the event, i.e. punctuality and completeness.

(31) U tom trenu ga odalami tako jako...
in that moment him-cl slam.**pf.**1.sg.aor that strongly
'And then (s)he slammed him with such a force...'

(32) (Konačno) napisah domaći!
finally write.**pf.**1sg.aor. homework
'I've finally finished my homework!'

Returning to the original observation, i.e. the compatibility of Aorist only with perfectives, I propose that this follows from the aspectual component Aorist conveys. More specifically, given that Aorist denotes completeness or punctuality, it is predicted to combine only with perfective

verbs in Serbian, since only the perfective marks the end point of the event and only perfectives occur with instantaneous events.

The immediate question regarding Aorist is how to derive its interpretation in the absence of TP. I argue that this issue can be resolved even if TP is not present in the structure, and that Aorist can be structurally represented as a two-tiered aspectual system (Smith 1991, Pancheva 2003, Pancheva 2013). One level is *viewpoint aspect*, which carries the information about the boundedness of the event. According to the definition in (33), perfective viewpoint aspect denotes an event which is contained within a given reference time interval. Conversely, imperfective in (34) denotes the event which contains a particular reference time interval. Viewpoint aspect with Aorist is specified for the perfective value. The second aspectual tier is *Perfect*, a time span that generalizes over time intervals and extends backwards from the contextually salient reference time interval ((35) à la Iatridou et al. 2001, Pancheva 2003). The default reference time interval is the Utterance Time (UT) (but see section 4.4.2). The structure for Aorist is given in (36).

(33) Perfective: $\lambda P.\lambda t.\lambda w.\exists e\ (\tau(e) \subseteq t\ \&\ P(e)=1)$ (Kratzer 1998)

(34) Imperfective: $\lambda P.\lambda t.\lambda w.\exists e\ (t \subseteq \tau(e)\ \&\ P(e)=1)$ (Kratzer 1998)

(35) $[\![\text{PERFECT}]\!] = \lambda p.\lambda t.\ \lambda w.\ \lambda t'[\text{PTS}(t', t)\ \&\ p(t')]$ PTS (t', t) iff t is a final subinterval of t'

(36) $\lambda w.\ \exists t'\ [t' < t_c \wedge \exists e\ [\tau\ (e) \subseteq t' \wedge K\ (w)(e)]]$

UT $\lambda t.\lambda w.\exists t'\ [t' < t \wedge \exists e\ [\tau\ (e) \subseteq t' \wedge K\ (w)(e)]]$

Perf: $\lambda K.\ \lambda t.\lambda w.\exists t'[t' < t \wedge K\ (t,t')(w)]$ AspP: $\lambda t.\lambda w.\ \exists e\ [\tau\ (e) \subseteq t \wedge K\ (w)(e)]$

One important property of the definition of Perfect in (35) is that it contains a non-deictic component, i.e. it is not strictly anchored to the UT. Rather, it introduces the interval which can extend backwards from any salient reference time interval. Only in the case the reference time interval is not otherwise established by the context, the time interval introduced by Perfect extends back from the UT. This property of Perfect is important because it makes predictions regarding possible interpretations of Aorist: if Aorist indeed contains the non-deictic Perfect component, as suggested in the structure in (36), then nothing in principle prevents Aorist from receiving non-past temporal interpretation. More specifically, Aorist is also predicted to be able to receive future interpretation, because the analysis makes it in principle possible for Perfect to introduce the interval extending backwards from a particular point in the future as well. In section 4.4.3, I show that this prediction is indeed borne out (see also Arsenijević 2013).

Regarding Imperfectum and its compatibility with imperfective verbs, recall that its use can be described as denoting continuity. Such an interpretation is compatible only with imperfectives, but not with perfectives, hence the latter are expected to be banned from co-occurring with Imperfectum.

Regarding its temporal interpretation, I propose that Imperfectum is, similarly to Aorist, represented as a two-tiered aspectual configuration, with the viewpoint aspect being restricted to imperfective, as in (38). The value for imperfective is repeated in (37).

(37) Imperfective: $\lambda P.\lambda t.\exists e\ (t \subseteq time(e)\ \&\ P(e)=1)$ (Kratzer 1998)

(38) $\lambda w.\exists t'\ [t' < t_c \wedge \exists e\ [t' \subseteq \tau(e) \wedge K(w)(e)]]$

UT $\lambda t.\lambda w.\exists t'\ [t' < t \wedge \exists e\ [t' \subseteq \tau(e) \wedge K(w)(e)]]$

Perf: $\lambda K.\lambda t.\lambda w.\exists t'[t' < t \wedge K(t,t')(w)]$ AspP: $\lambda t.\lambda w.\exists e\ [t \subseteq \tau(e) \wedge K(w)(e)]$

4.2.7 Temporal interpretations of other past forms

Regarding structural make-up of other forms receiving past interpretation in the absence of TP, I propose that periphrastic past (repeated in (39)), like Aorist, contains a two-tiered aspectual configuration: viewpoint aspectual layer and Perfect. Unlike Aorist, however, periphrastic past allows for either aspectual specification of viewpoint aspect.

(39) a. Jovan je radio domaći.
Jovan is do.impf.part. homework
'Jovan was doing his homework.'

b. Jovan je uradio domaći.
Jovan is do.pf.part. homework
'Jovan finished his homework.'

In terms of temporal interpretation, I thus propose that periphrastic past and Aorist are not substantially different. Rather, Aorist has more connotations. Todorović (2014) and Halupka-Rešetar & Todorović (2014) for instance observe that when Aorist is fronted to sentence-initial position, it carries an expressive component, in addition to the descriptive one. In (40b), the speaker also expresses his/her attitude (great surprise in this case). This expressive component does not come naturally when Aorist is not fronted, as in (40a), and, crucially, it is not present with periphrastic past, as in (41) (unless the element in question is focused).

(40) a. Jovan udari Mariju.

Jovan hit.aor. Marija

'Jovan has hit Marija.'

b. Udari Jovan Mariju!

hit.aor. Jovan Marija

'Jovan has hit Marija! (which is surprising)'

(41) Udario je Jovan Mariju.

hit.part. is Jovan Marija

'Jovan has hit Marija.'

Finally, note that, similarly to Aorist, non-deictic Perfect component should in principle allow both past and future interpretations of periphrastic past forms. As it will be shown in section 4.4.3, this prediction is borne out, since these forms indeed occur in certain future-oriented contexts.

4.3 The UT and future interpretations

4.3.1 The UT Interpretations

In Serbian, morphological present tense that receives an Utterance Time (henceforth the UT) interpretation is compatible only with imperfective aspect, as in (42a), but it is incompatible with perfective aspect (42b).[110,111]

(42) a. Milan jede jabuku.
Milan eats.impf. apple
'Milan is eating an apple right now.'

b. *Milan pojede jabuku.
Milan eats.pf. apple
'Milan has eaten an apple (just now).'

I propose that, in the absence of TP, imperfective forms as in (42a) can be represented as in (43), where the Aspect is directly ordered with respect to the UT.

[110] This restriction holds for eventive predicates. See Todorović (2015b) for a detailed paradigm of Serbian and parallelism with English; in English, these restrictions hold for non-progressive forms of eventives (see Bennett & Partee 1972, Taylor 1977, Dowty 1979, Enç 1991, Smith 1991, Cowper 1998, Abusch 2004, and Wurmbrand 2014, *i.a.*).

[111] The perfective in (42b) indicates the point of finishing the apple overlaps with the UT.

(43) $\lambda w.\exists e\ [t_c \subseteq \tau\ (e) \wedge K\ (w)(e)]$

UT AspP: $\lambda t.\ \lambda w.\exists e\ [t \subseteq \tau\ (e) \wedge K\ (w)(e)]$

Asp: $\lambda K.\lambda t.\ \lambda w.\exists e\ [t \subseteq \tau\ (e) \wedge K\ (w)(e)]$ VP: $\lambda e\ (v).\ K\ (e)$

Regarding the impossibility of perfective in (42b), Todorović (2013, 2015b) argues that the aspectual restrictions in Serbian follow from the impossibility of perfective viewpoint aspect to locate the event with respect to the reference time interval (see Wurmbrand 2014 for English). In (42b), aspect would need to locate the event with respect to the UT, as in (44). If perfective aspect requires inclusion of the event within the reference time interval (cf. (33)), and if the UT is a near-instantaneous interval (cf. Giorgi & Pianesi 1997, Cowper 1996, 1998, and contra Enç 1987; see also Ogihara 2007), then perfective cannot be included within such a short interval, requirements of aspect are not satisfied, and the event cannot be temporally located; perfective is correctly predicted to be infelicitous.

(44)

UT AspP: $\lambda t.\ \lambda w.\exists e\ [t \subseteq \tau\ (e) \wedge K\ (w)(e)]$

Asp: $\lambda K.\lambda t.\ \lambda w.\exists e\ [\tau(e) \subseteq t \wedge K\ (w)(e)]$ VP: $\lambda e\ (v).\ K\ (e)$

Although the observed restrictions are not *per se* an indicator of the absence of TP, the way the computation in (44) proceeds shows that these restrictions can be easily accounted for in the analysis of Serbian which does not postulate a TP layer in the structure.[112]

[112] See section 4.5.2.2 for the same type of restriction with morphological present tense in propositional complements in Serbian.

4.3.2 Future Interpretations

Future forms in Serbian are periphrastic forms composed of the Auxiliary *will* and the infinitive, and they combine with either aspectual value:

(45) Ja <u>ću pisati</u> tezu.
I will write.impf.inf. thesis
'I will be writing my thesis.'

(46) Ja <u>ću</u> u nekom trenu <u>napisati</u> tezu.
I will-$_{1.sg.}$ in some moment write.pf.inf thesis
'I will have finished my thesis by some point.'

I propose that future interpretations contain a modal *woll* component, which, structurally, I take to be a mirror image of Perfect (for definitions of *woll* and analyses that integrate *woll* into the composition of finite future in English see also Abusch 1985, 1988, Copley 2002, Kaufmann 2005, *i.a.*). More specifically, I follow Condoravdi's (2002) proposal that modals expand the time of evaluation, where *woll* is a necessity modal, with the definition given in (47). MB stands for a modal base on which the modal depends for its interpretation; MB is a contextually determined function from world-time pairs to sets of worlds.[113] Importantly, [t, _) is an interval which has t as its initial subinterval and it extends to the end of time. Given that, according to

[113] Condoravdi (2002) discusses the difference between epistemic modality, i.e. modality determined by the knowledge of the agent and metaphysical modality, i.e. modality determined by the way the world might turn out or might have turned out to be. Depending on the modality, the world-time pairs in MB will be either compatible with what the agent knows in w at t (epistemic modality) or the world-time pairs will contain the metaphysical alternatives of w at t. This division is, however, orthogonal for the current discussion.

(47), *woll* introduces a time interval which extends forward from a contextually salient interval, in that respect it is a mirror image of Perfect which extends backwards from a contextually salient interval (repeated here in (48)).

(47) $[\![\text{WOLL}]\!]_{MB} = \lambda P.\ \lambda w.\ \lambda t.\ \forall w'\ [w' \in MB\ (w,t) \rightarrow AT\ ([\ t,\ \_),\ w',\ P)]$

(48) $[\![\text{PERFECT}]\!] = \lambda P.\lambda t.\ \lambda t'[PTS(t',\ t)\ \&\ P(t')]$

PTS (t', t) iff t is a final subinterval of t'

Spelling out how *woll* is integrated into the structure, I propose that future imperfectives, as in (45), are computed as in (49). The *woll* component extends the time interval forward from the UT. The unboundedness of the viewpoint aspect, as dictated by imperfective, is responsible for the event being in progress at a certain point in future. Future imperfectives, as in (45), can be computed similarly to future imperfectives in (49), with the only difference being the value of viewpoint aspect, i.e. bounded value.

(49) $\lambda w.\ \forall w'\ [w' \in MB\ (w,t_c) \rightarrow \exists t'\ \exists e\ [[t_c,\ t'] \subseteq \tau\ (e) \wedge K\ (w')(e)]$

UT $\lambda t.\ \lambda w.\ \forall w'\ [w' \in MB\ (w,t) \rightarrow \exists t'\ \exists e\ [[t,\ t'] \subseteq \tau\ (e) \wedge K(w')(e)]$

$woll_{MB}$: $\lambda P.\lambda t.\lambda w.\ \forall w'[w' \in MB(w,t) \rightarrow \exists t'[P([t,\ t'],w')]]$ AspP: $\lambda t.\lambda w.\exists e\ [t \subseteq \tau\ (e) \wedge K\ (w)(e)]$

4.4 Non-deictic interpretation of past and future forms in Serbian

In section 4.3.2, I proposed that future forms comprise a *woll* component, whereas in section 4.2.7, it was argued that past-oriented forms comprise a Perfect component. Both components

take a salient interval as its starting subinterval and extend forward and backwards, respectively, from it; the event is then located with respect to this interval (it is either included within it or it includes it, depending on the aspectual specification of the predicate). The standard assumption is that the UT is the default interval from which both *woll* and Perfect extend.

Importantly, Perfect and *woll* are non-deictic components, i.e. neither is necessarily anchored to the UT. As discussed in Chapter 1, the core of the definition of Tense is that it is a deictic category, i.e. it introduces the time interval necessarily anchored to the UT (along the lines of Klein 1994). This means that neither Perfect nor *woll* fall into the category of Tense, since they extend from any time interval that the context dictates. In other words, there is indeed no Tense involved in the temporal interpretation. Yet, the interpretations can still be successfully derived, as it has been shown in sections 4.2.7. and 4.3.2.

Nevertheless, non-deictic components also bring in a potential problem of over-generating possible interpretations. To be more specific, if Perfect can extend from any contextually salient time interval, then, in addition to past interpretations, the system in principle allows for forms containing Perfect to receive future interpretations; in such cases, Perfect would extend backwards from a salient interval in the future. In a similar vein, forms containing *woll* component are predicted to be able to introduce the interval that extends forward from a salient interval in the past.

Strikingly, as shown in the following three sections, the prediction is borne out: future forms can receive past interpretations, and Perfect forms, both periphrastic past and Aorist, can receive future interpretations.

4.4.1 Relative interpretation of forms containing *woll*

In section 4.3.2, it was shown that periphrastic forms containing an Auxiliary *will* and the infinitive receive future interpretation in simple clauses, as in (50)-(52). Depending on the aspectual specification of the main verb and the type of the predicate, i.e. eventive or stative, a predicate will either be perceived as completed at a particular point in the future (with perfective eventives), or ongoing at a particular point in the future (with imperfective eventives and statives). Importantly, regardless of these differences, these forms will always receive future interpretation in simple clauses.[114]

(50) Ja ću pisati tezu.
I will-$_{1.sg.}$ write.impf.inf thesis
'I will be writing my thesis.'

(51) Ja ću tad spavati.
I will then sleep.impf.inf
'I will be sleeping at that point.'

(52) Ja ću u nekom trenu napisati tezu.
I will in some moment write.pf.inf thesis
'I will have finished my thesis by some point.'

[114] For other constructions which denote future interpretations in Serbian, and for aspectual distribution in those constructions, see section 4.5.2.

The distribution in embedded clauses, however, shows that future interpretation is not absolute with these forms in Serbian. This is visible in complements of verbs like *kazati* 'to say'. If the matrix verb receives the UT interpretation, the embedded future form will receive future interpretation, as in (53). However, if the main verb receives past interpretation, then the embedded future does not necessarily receive future interpretation. In fact, in the scenario in (54) where the UT is located after the event in the embedded clause, future-in-the-past is the only available interpretation.[115]

(53) Jovan kaže da će pokupiti granje.
Jovan says that will pick.up-inf. branches
'Jovan says that he will pick up the branches.'

(54) Jovan je (pre mesec dana) rekao da će se do prvog marta prijaviti
Jovan is before month day said that will SE until first March apply.inf.
za stipendiju.
for scholarship
Sad je već petnaesti (mart) i još ništa.
now is already fifteen (March) and still nothing
'A month ago, Jovan said that he would apply for a scholarship by March 1. It's March 15 today, and he still hasn't (applied for a scholarship).'

What this shows is that the embedded future receives forward-shifting interpretation not necessarily with respect to the UT, but with respect to the reference time interval established, in

[115] Whether or not the event was realized does not affect the intended interpretation: the event was supposed to be located in the past with respect to the UT.

this context, by the main verb. This is further illustrated by (55) in which the event in the main clause receives future interpretation, the embedded event in this case is located in the future with respect to the time interval established by the main verb, and not with respect to the UT. The examples in (53)-(55) thus provide evidence that, in Serbian, *woll* does not behave like a deictic category that is necessarily anchored to the UT.

(55) Jovan će ti sutra reći da će se prijaviti za stipendiju.
Jovan will you.dat. tomorrow say that will SE apply.inf. for scholarship
'Tomorrow, Jovan will tell you that he will apply for a scholarship.'

That future *woll* component is not necessarily following the UT is further supported in future irrealis complements, i.e. complements of the verb like *hteti* 'want', in which the embedded predicate is typically temporally located after the time of the matrix predicate. Todorović (2015b, 2015c) argues that complements of these verbs contain a *woll* component (see also section 4.5.2.2; for English, see Wurmbrand 2014). The examples in (56) illustrate that, depending on the temporal location of the main predicate, the embedded verb temporally follows the time interval established by the main predicate, and crucially not the UT.[116,117]

[116] I give the examples where the embedded verb is in the perfective aspect. The same applies for embedded verbs specified for imperfective aspect.

[117] The example in (i) shows that complement of *želeti* 'to want' can morphologically also be realized as an infinitive; present tense and infinitive are interchangeable, with a slight preference for using the particle *da* + present tense in the Serbian dialect of Serbo-Croatian, and infinitive in the Croatian and Bosnian dialects (temporal interpretations remain the same regardless of the form used). *Želeti* cannot, however, embed future forms, as in (ii). For more details, see section 4.5.2.1.

(56) a. Želim da prevedem pesmu.

want-1.sg.pres DA translate.pf.1.sg.pres. poem

'I want to translate a poem.'

b. Želeo sam da prevedem pesmu.

want.part.masc.sg. am DA translate.pf.1.sg.pres.pf. poem

Intended interpretation: 'I wanted to have translated a poem.'

c. Želeću da prevedem pesmu.

want-will.1.sg DA translate.pf.1.sg.pres.pf. poem

Intended interpretation: 'I will want to have translated a poem.'

4.4.2 Possible interpretations of periphrastic past forms

In section 4.2.1, it was argued that a periphrastic past form derives past interpretations in matrix clauses, and that, depending on the aspectual specifications, these forms can receive interpretation where the event either entirely precedes the UT, as repeated in (57a) or it started at some point in the past and it might be extending after the UT, as in (57b).

(57) a. Jovan je uradio domaći.

Jovan is do.pf.part. homework

'Jovan finished his homework.'

b. Jovan je radio domaći.

Jovan is do.impf.part. homework

'Jovan was doing his homework.'

However, the UT is not the only salient interval from which Perfect in these forms needs to extend backwards. These forms can also introduce an interval extending backwards from a particular point in the past. This is illustrated in (58), where Marija's arrival from the embedded clause serves as the reference time interval for the Perfect component of the main verb; the event of doing the homework is located prior to Marija's arrival. When the verb is specified for imperfective, the event is interpreted as ongoing at the point of Marija's arrival, as in (59). Note that (58) can in principle also be expressed with Pluperfect, as in (60). However, this option seems to be marked, if not degraded for some speakers.

(58) Jovan <u>je uradio</u> domaći pre nego što je Marija došla.

Jovan is do.pf.part. homework before than that is Marija arrived

'Jovan finished his homework before Marija arrived.'

(59) Jovan <u>je radio</u> domaći pre nego što je Marija došla.

Jovan is do.impf.part. homework before than that is Marija arrived

'Jovan was doing his homework before Marija arrived.'

(60) ?Jovan je bio uradio domaći pre nego što je Marija došla.

Jovan is been do.pf.part. homework before than that is Marija arrived

'Jovan had done his homework before Marija arrived.'

Crucially, interpretation in (57), i.e. the event being located prior to the UT, and the interpretation in (58), the event being located prior to Marija's arrival in the past (or to have started before it, as in (59)), are predicted to be possible by the analysis advocated in section 4.2.7: Perfect extends the reference time interval backwards from the UT, unless there is a contextually salient reference time interval in the past, in which case Perfect extends from that point on. In the latter case, we obtain Pluperfect interpretations, as in (58) and (59). This is consistent with the observation that periphrastic past is nowadays used more commonly to express interpretations otherwise obtainable with Pluperfect, the form which is becoming more and more archaic (which would explain its markedness in (60)). The non-deictic property of Perfect, i.e. the property of not necessarily being anchored to the UT, correctly predicts the availability of Pluperfect interpretations in Serbian with periphrastic past forms.

Further prediction that we are making is that Perfect can extend backward from a particular point in the future. This prediction is indeed attested. In matrix clauses, this form is frequently used to refer to "an imminent unfavorable event" (Riđanović 2012:309), as in (61). In conditionals, whose antecedent clause refers to future events, the consequent can also contain periphrastic past form, as in (62) and (63) (see also section 4.4.3 on relative interpretation of Aorist).[118]

[118] The antecedents in (62) and (63) also show that present tense form is not restricted to the UT interpretation; see also section 4.5.2.

(61) (Zato što nemam rešenje) Propao sam!

because not.have solution fell.through-part.masc.sg am

I'm done (because I don't know how to fix this)!'

(62) Ako nas uhvate, nastradali smo.

if us catch.3.pl.pres. suffer-part. are

'If they catch us, we've had it.'

(63) Ako ne platimo dug do sutra, nagrabusili smo.'

if not pay.1.pl.pres debt until tomorrow trouble-part. are

'If we don't pay back the debt by tomorrow, we are in for it.'

Future-oriented interpretation of forms containing Perfect is further attested in subordinate clauses. In the antecedent of conditionals in (64a), a typical form in which the participle receives a future-oriented interpretation is with a suppletive form of *Be*. However, for some speakers, it is also possible to combine the participle with the form of the Auxiliary *Be* which is otherwise used in periphrastic past tense, as in (64b). Note that context is needed, which indicates that there is tendency to interpret these forms in the past. However, given that these forms can occur in future-oriented environments, they cannot be analyzed as true past forms.

(64) a. Ako budeš došla u goste, pokazaću ti.

if be-2.sg. come-part.part.fem in guests, show.will you-dat.cl

'If you visit me, I will show it to you.'

b. Context: You are starting to work today.

Za pola godine, ako si dobro poslovala, dobićes povišicu.

for half year if be.2sg. well operate-part.fem.sg. get.will-2.sg raise

'In half a year, if you have worked well, you will get a raise.'

The same holds in temporal clauses in (65); a typical form in which the participle receives a future-oriented interpretation is with a suppletive form of *Be,* as in (65a). However, (65b) is also possible for some speakers.[119]

(65) a. Kada budeš završila tezu, pašće ti kamen sa srca.

when be-2.sg. finish-part.fem.sg. thesis, fall.will you-dat. rock from heart

'When you finish your thesis, you'll finally relax.'

b. Context: I am asking you to go around Serbia and visit your friends.

Kad si stigla u Beograd, javi se Dragani.

when be-2.sg. arrive-part.fem.sg. in Belgrade, call SE Dragana

'When you arrive to Belgrade, call Dragana.'

Note that context is needed, which again indicates that there is a tendency to interpret these forms in the past. However, given that these forms can occur in future-oriented environments,

[119] Some speakers are, however, more hesitant to use the form in the context of (65b) than in the context of (64b).

they cannot be analyzed as true past forms. The use of participles in these future-oriented context fits into a more general pattern in other Slavic languages. As it will be discussed in more detail in Chapter 5, Slovenian, Polish and Russian use traditionally labeled past participles in non-past environments, which Migdalski (2014) takes as an indication of their non-past interpretation in these Slavic languages. I propose that Serbian can be added to that list. More importantly, the semantic properties of participles in all these Slavic languages shows that traditional labels are not reliable and should thus be re-considered.

Finally, I will make a suggestion regarding how the future-orientation in the above forms can be captured. I follow Kaufmann (2005) who, on the basis of the distribution of tenses in English conditionals, argues that conditional clauses introduce a deictic center other than the UT with respect to which the events are ordered. Given that in Serbian, forms containing Perfect can occur in conditional (and temporal) clauses, I propose that, in order to be licensed in future-oriented contexts, these forms must be anchored to a particular temporal center in the future.[120] Time adverbials themselves cannot license future interpretations of these forms, as shown in (66)-(68).[121]

(66) *Ja sam spavao sutra.
I am sleep.impf.part. tomorrow
Intended interpretation: 'I will be sleeping tomorrow.'

[120] Kaufmann (2005) does not discuss temporal clauses, but the data in English seem to pattern with conditionals in terms of the interplay of temporal distribution. Since it seems to be the case that conditionals and temporal clauses behave alike in Serbian, at this point I believe that they can be unified under the same analysis (pending a thorough investigation). This analysis would, however, need to extend to (61) as well.
[121] In Kaufmann's (2005) system, it is the *if* operator that shifts the temporal center for the temporal interpretation of the antecedent and consequent. In Abusch's (1988) analysis, the *woll* component would be responsible for the shift. At this point I remain agnostic with respect to which option would be more suitable for the Serbian examples above.

(67) *Ja sam pisao tezu sutra.

I am write.impf.part. thesis tomorrow

Intended interpretation: 'I will be writing my thesis tomorrow.'

(68) *Ja sam napisao tezu sutra.

I am write.pf.part. thesis tomorrow

Intended interpretation: 'I will have written my thesis tomorrow.'

In section 4.5, I provide further evidence that temporal adverbials cannot license future interpretation on their own; instead I show that syntactic/semantic anchoring is also required. I focus on perfective forms in aspectually rich languages lacking pure temporal morphology.

4.4.3 Relative interpretation of Aorist

Recall that it was proposed in section 4.2.6 that Aorist forms also contain Perfect component in their structure. Similarly to the case of periphrastic past form, the prediction we are then making is that Aorist should be able to receive interpretations other than past (Arsenijević 2013 makes a similar point). This prediction is indeed borne out. In complex clauses, Aorist occurs in main clauses, e.g. in consequent of conditional clauses, as in (69) and (70), respectively, or in consequential clauses (71), and in all three instances it receives future interpretation. The same temporal interpretation is obtained in the antecedent of a conditional in (70).

(69) Ako ne budemo odlučni, propadoše nam svi planovi.

if not be decisive fall.through-aor.3.pl we-acc. all plans

'If we are not decisive, all our plans will fall through.'

(Riđanović 2012:317)

(70) Ako pođoh, nagledah se jada...

if go.1sg.aor. see.1ag.aor. SE sorrow

'If I go, I will witness all the suffering...'

(Stanojčić and Popović 1992:384)

(71) Nema nam spasa, pomrijesmo od gladi!

not.have-3.sg. we.dat. salvation die.1pl.aor. from hunger

'We can't be saved – we will starve to death.'

(Riđanović 2012:317)

Moreover, (72) is especially interesting because Aorist can be used with the reference to present moment, but only if it receives habitual interpretation, not if the moment of completing the event overlaps with the UT, as confirmed by the restrictions on the possible interpretations of (73) – Aorist can only refer to an event that has been completed prior to the UT and not at the UT.

(72) Ne diraj mi kompjuter – ti pokvari sve što dotakneš.

not touch I-dat. computer you break.aor all that touch.2sg.pres.

'Don't touch my computer, you break everything you handle!'

(Riđanović 2012:316)

(73) Evo dođe struja!

here come.3sg.aor. electricity

'Power is on again!'

a) it has been on for couple of seconds/minutes now

b) *lights are turning on as we speak

(Riđanović 2012:316)

This is in line with what we have observed with perfective morphological present tense in Serbian – the length of the reference time interval restricts the availability of interpretations of the perfective (cf. section 4.3.1; see also section 4.5.2). Restrictions on the interpretation in (73) are expected, given that Aorist is predominantly formed of perfective verbs.

4.5 Restrictions on future interpretations

As the final point on available temporal interpretations, I discuss the availability of future interpretations in aspectually rich languages that lack temporal morphology. As it will be shown, in these languages future is somewhat restricted with perfective verbs. This is not surprising, given the tendency for perfective to denote past interpretations, even in the absence of temporal morphology (see section 4.1). Future interpretations of perfective are felicitous only if there is a future component in the structure.

I will discuss here aspectually rich languages which lack pure temporal morphology (hence lack TP, see Chapter 5), such as Chinese (Lin 2006, Smith and Erbaugh 2005), Guaraní

(Tonhauser 2011), Lillooet Salish (Matthewson 2006), Korean (Kang 2014), showing that the same pattern emerges in all of them: all of them need some future component in the structure to enable the perfective to receive future reading. I then provide further illustrations from Serbian.

4.5.1 Future readings of the perfective in languages without pure temporal morphology

Lillooet Salish lacks pure temporal morphology (see Matthewson 2006). Thus, the example in (74) is ambiguous between present and past interpretation. However, the exact interpretation is affected by the presence of a temporal adverbial, as in (75).

(74) Táyt-kan
hungry-1sg.subj
'I am hungry/ I was hungry.'
(Matthewson 2006:676)

(75) a. Táyt-kan lhkúnsa.

hungry-1sg.subj now

'I am hungry now.'

b. K'ác-an'-lhkan i-nátcw-as.

dry-dir-1sg.subj when.past-one.day.away-3conj

'I dried it yesterday.'

c. Sáy'sez'-lhkan i-tsilkstásq'et-as.

play-dir-1sg.subj when.past-Friday-3conj

'I played on Friday.'

(Matthewson 2006:677)

Crucially, a future-oriented adverbial cannot serve the same purpose:

(76) a. *Táyt-kan natcw / zánucwem.

hungry-1sg.subj one.day.away / next.year

'I will be hungry tomorrow / next year.'

b. *K'ác-an'-lhkan natcw / zánucwem.

dry-dir-1sg.subj one.day.away / next.year

'I will dry it tomorrow / next year.'

c. *Sáy'sez'-lhkan natcw / zánucwem.

play-1sg.subj one.day.away / next.year

'I will play tomorrow / next year.'

Matthewson (2006) argues that what makes present or past interpretation available in (75) is the presence of a phonologically covert tense morpheme (note that Mathewson argues that Lillooet Salish is a TP language). This morpheme restricts the reference time to non-future, and the adverbial serves to disambiguate the available temporal interpretations. In other words, while a temporal adverbial can establish the context, i.e. in this particular case, to disambiguate between present and past interpretations, these interpretations are, crucially, independently licensed.

Regarding future interpretations in Lillooet Salish, those are obtained with the element *kehl,* as in (77), which Matthewson (2006) argues to be a realization of the *woll* component.

(77) a. Táyt-kan <u>kelh.</u>

hungry-1sg.subj kelh

'*I was hungry / * I am hungry / I will be hungry.'

b. K'ác-an'-lhkán <u>kelh</u>.

dry-DIR-1sg.subj kelh

'*I dried it / *I am drying it / I will dry it.'

c. Sáy'sez'-lhkán <u>kelh</u>.

play-1sg.subj kelh

'*I played / *I am playing / I will play.'

Matthewson (2006: 678)

Consider now Paraguayan Guarani. In this language, there is also a requirement for something other than the time adverbial to license future-interpretations. In (78), for instance, verbs only marked for person and number (which are compatible with perfective reference) in the main

clause can receive future time interpretation if there is a prospective marker in the subordinate clause that shifts the interpretation to the future (Tonhauser 2011).

(78) Context: It's morning, the speaker is talking about a goose walking past her and the addressee says:

Ja' ú-ta-re ko gánso ko'ẽro, a-juka ko ka'arú-pe.
A1pl.incl-eat-prosp-for this goose tomorrow A1sg-kill this afternoon-at
'Since we are going to eat this goose tomorrow, I will kill it this afternoon.'
(Tonhauser 2011: 274)

Next on the list is Chinese, which is particularly interesting because of the interpretations that its perfective marker *le* can receive. In matrix contexts, it receives past interpretation:

(79) Ta da le majiang.
she play **pf.** mahjong.
'She played/has played mahjong.'
(Smith and Erbaugh 2005:721)

Recall from Chapter 3 that aspectual markers are not always obligatory in Chinese, but that the aspect, nevertheless, dictates a temporal interpretation. In the absence of a perfective marker, viewpoint aspect is determined by situation aspect (Lin 2003, 2006, Smith and Erbaugh 2005).

The example in (80) is an achievement, its viewpoint aspectual value is perfective. Importantly, (80) receives past interpretation.

(80) Zhangsan dapuo yi-ge heaping.

Zhangsan break one-cl vase

'Zhangsan broke a vase.'

(Lin 2006:3)

Interestingly, despite what the data in (79) and (80) might suggest, perfective aspect is not necessarily restricted to past interpretations. Perfective markers can felicitously occur in future contexts such as conditional clauses (81) or *deng*-clauses (types of temporal clauses) (82) (Lin 2006) (see section 4.5.2 for parallelism with Serbian).

(81) (Ruguo) Wo mingtian da-le maijang, houtian

if I tomorrow play-**pf.** mahjong the.day.after.tomorrow

jui neng qu pashan.

JUI can go mountain.climbing

'If I play mahjong tomorrow, I can go mountain climbing the day after tomorrow.'

(82) Deng ni nadao-le boshi xuewei, wo jiu mai xin che gei ni.

wait you get-**pf.** doctor degree I then buy new car for you

'After you have got your doctor degree, I will buy a new car for you.'

(Lin 2006: fn 18)

Importantly, similarly to Lillooet Salish, a future-oriented adverbial alone (*mingtian* in (83) cannot enable a future reading:

(83) *Ta mingtian da le majiang
she tomorrow play **pf.** mahjong.
*'She will play mahjong tomorrow.'

Finally, in Korean, which Kang (2014) argues lacks true temporal morphology and uses *–ess* as a perfective marker (cf. Chapter 3), we also observe that future interpretation cannot be obtained with a future-oriented adverbial alone, as in (84).

(84) *Mary-ka sakwa-lul nayi mek-ess-ta.
Mary-nom apple-acc tomorrow eat-perf-decl
'Mary will eat an apple tomorrow.'

In light of this, I propose (85):

(85) **Proposal:** In a language that lacks overt temporal morphology, verbs specified for perfective aspect cannot receive future interpretation unless there is a future component in the structure.

In the next section, I discuss what this component may be. I provide a paradigm from Serbian, which also observes restrictions on future interpretation of the perfective. I propose that

perfective under this interpretation is licensed when there is a *woll* component in the structure. I also show that an adverbial is not enough to license future interpretations.

4.5.2 Restrictions on future interpretations of perfective in Serbian

4.5.2.1 Matrix clauses

As it was already illustrated in section 4.3.2, the canonical way to obtain future interpretations in matrix clauses in Serbian is via auxiliary *will* and an infinitive. Recall also that these forms permit either aspect, as in (86a) and (86b).

(86) a. Ja ću pisati tezu.
I will write.**impf**.inf thesis
'I will be writing my thesis.'

b. Ja ću u nekom trenu napisati tezu.
I will in some moment write.**pf**.inf. thesis.
'I will have finished my thesis by some point.'

Note, however, that the forms in (86) are not the only option for expressing future in Serbian − it is also possible to use morphological present tense. Crucially, with future interpretations, this form is only compatible with imperfectives, as in (87), but not with perfectives, as in (88):

(87) Kupujem kuću sutra.

buy.**impf**.1.sg.pres house tomorrow

'I am buying a house tomorrow.'

(88) *Kupim kuću sutra.

buy.**pf.**1.sg.pres house tomorrow

'I will buy a house tomorrow.'

Interestingly, morphological present can also denote future when it occurs in the following construction: will + element *da* + morphological present. Under such a configuration, both imperfective (89a) and perfective (89b) are available:

(89) a. On će sutra da kupuje kola.

he will tomorrow DA buy.**impf**.3.sg. pres. car

'He will be buying a car tomorrow.'

b. On će sutra da kupi kola.

he will tomorrow DA buy.**pf**.3.sg.pres. car

'He will buy a car tomorrow.'

4.5.2.2 Embedded environments

As discussed in section 4.4.1, embedded clauses in Serbian are expressed with an element *da* + morphological present. I will now focus on the distribution of perfective in three types of clausal complements, future-irrealis complements, i.e. complements of the verb like *želeti* 'to want',

propositional complements, i.e. complements of the verb like *verovati* ‘to believe’, and tenseless complements, i.e. complements of verbs like *pokušavati* ‘to try’.

In future-irrealis complements, the embedded present receives future interpretation (see also section 4.4.1); both imperfective (90a) and perfective (90b) aspect are available:

(90) a. Želim da sutra popodne, kada moj mentor uđe u učionicu,
want.1.sg.pres DA tomorrow afternoon when my advisor enters in classroom
ja pišem tezu.
I write.**impf.**1.sg.pres. thesis
‘When my advisor enters the classroom tomorrow, I want to be writing my thesis.’

b. Želim da sutra popodne, kada moj mentor uđe u učionicu,
want.1.sg.pres DA tomorrow afternoon when my advisor enters in classroom
ja napišem tezu.
I write.**pf.**1.sg.pres. thesis
‘When my advisor enters the classroom tomorrow, I want to have written my thesis.’

In propositional complements, future interpretation of morphological present is available only with imperfective (91a), but not with perfective aspect (91b):

(91) a. Verujem da Jovan sutra kupuje kuću.

believe.1.sg.pres. DA Jovan tomorrow buys.**impf**.3.sg.pres house

'I believe that John will be buying a house tomorrow.'

b. *Verujem da Jovan sutra kupi kuću.

believe.1.sg.pres. DA Jovan tomorrow buys.**pf**.3.sg.pres house

'I believe that John will have bought a house tomorrow.'

Note here a more general restriction with the embedded present in these complements: eventive predicates cannot co-occur with perfective aspect under a simultaneous interpretation.

(92) a. Verujem da Jovan prevodi pesmu.

believe.1.sg.pres. DA Jovan translate.**impf**.3.sg.pres. poem

'I believe that John is translating a poem (right now).'

b. *Verujem da Jovan prevede pesmu.

believe.1.sg.pres. DA Jovan translate.**pf.**3.sg.pres poem

Intended interpretation: 'I believe that John has translated a poem (just now).'

Finally, in tenseless complements, embedded present occurs with either aspect, as in (93a) and (93b). However, the future interpretation is altogether excluded in these complements, as in (94).

(93) a. Pokušavam da prevodim pesmu.

try.1sg.pres DA translate.**impf.**1.sg.pres poem

'I am trying to translate a poem right now.'

b. Pokušavam da prevedem pesmu.

tried.1sg.pres DA translate.**pf.**1.sg.pres poem

'I am trying to translate the entire poem.'

(94) a. *Pokušavam da sutra prevodim pesmu.

try.1sg.pres DA tomorrow translate.**impf.**1.sg.pres poem

'I am trying to translate a poem tomorrow.'

b. *Pokušavam da sutra prevedem pesmu.

tried.1sg.pres DA tomorrow translate.**pf.**1.sg.pres poem

'I am trying to translate the entire poem tomorrow.'

Table 2 provides a summary of the environments in which perfective is (dis)allowed under future interpretation.

Environment		**Perfective under future reading**
Matrix clauses	will + infinitive	√
	will+ da+ morphological present	√
	morphological present	*
Embedded clauses	Propositional complements	*
	Tenseless complements	*
	Future-irrealis complements	√

Table 2: Availability of perfective under future interpretations in Serbian

4.5.2.3 An account

To account for the distribution of perfective in Table 2, Todorović (2015c) proposes that the perfective is available when the event that it denotes can be included within the reference time interval with respect to which it is ordered, which in turn means that this time interval cannot be very short (see also Todorović 2013, 2015b). As discussed in section 4.3.1, this captures the restrictions with the UT interpretations of morphological present specified for the perfective: the UT is a near-instantaneous interval and the perfective, which is ordered with respect to it, cannot be included within it. The same restrictions are responsible for the lack of perfective with propositional complements in (93b), repeated in (95): the attitude holder's *now,* i.e. the time for which the speaker believes to be his now, which is a very short time interval, serves as the reference time interval for the perfective; the requirements of perfective cannot be met and

perfective is correctly predicted to be ruled out (for the formal implementation of the analysis, see Todorović 2015b).

(95) *Verujem da Jovan prevede pesmu.
believe.1.sg.pres. DA Jovan translate.**pf.**3.sg.pres poem
Intended interpretation: 'I believe that John has translated a poem (just now).'

If the length of the time interval with respect to which the perfective is ordered matters, this further implies that perfective will be felicitous in past and future contexts, since past contexts contain the Perfect component, and future contexts contain the *woll* component, and both of these introduce a relatively long time interval; the perfective can be included within such an interval, hence it is predicted to be felicitous. Regarding the matrix clauses, the *woll* component, which is realized as *će*, occurs in (96a) (cf. (86b)) and (96b) (cf. 89b)), and it allows for perfective aspect. The perfective is, however, disallowed in (97) (cf. (88)), which does not contain this component. Note that the adverbial in (97) is not sufficient to license the future interpretation, in the same way this it is not sufficient in languages discussed in section 4.5.1.

(96) a. Ja ću u nekom trenu napisati tezu.
I will in some moment write.**pf**.inf. thesis.
'I will have finished my thesis by some point.'

b. On će sutra da kupi kola.
he will tomorrow DA buy.**pf**.3.sg.pres. car
'He will buy a car tomorrow.'

(97) *Kupim kuću sutra.

buy.**pf.**1.sg.pres house tomorrow

'I will buy a house tomorrow.'

Note furher that the restrictions on the occurrence of morphological present on its own in matrix clauses are in contrast with the availability of the perfective in the embedded context in (98) (cf. (91b)).

(98) Želim da sutra popodne, kada moj mentor uđe u učionicu,

want-1.sg.pres DA tomorrow afternoon when my advisor enters in classroom

ja napišem tezu.

I write.**pf.**1.sg.pres. thesis

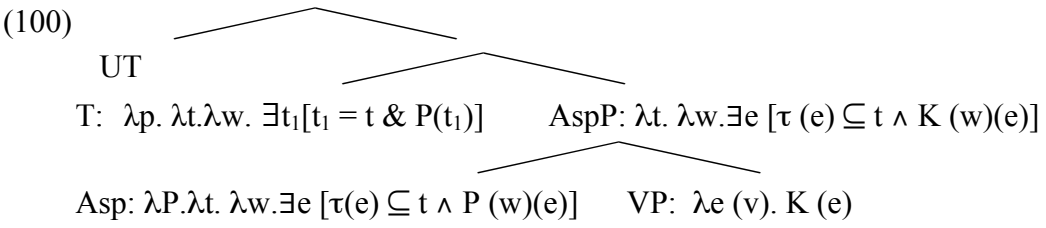
'When my advisor enters the classroom tomorrow, I want to have written my thesis.'

First, this provides support that morphological present in those instances cannot correspond to semantic present. If the semantic present, as defined in (99), were within the structure, it would be incorporated as in (100). Present tense would be ordered with respect to the UT, and, given its semantics, it would introduce the equally short time interval as the UT. This time interval in turn would serve as the reference time interval for the perfective. Given the shortness of this interval, the requirements of the perfective would not be satisfied. In other words, the perfective would wrongly be predicted to be infelicitous in (98).

(99) $[\![\text{PRESENT}_1]\!] = \lambda p.\ \lambda t.\lambda w.\ \exists t_1[t_1 = t\ \&\ P(t_1)]$

(à la Pancheva and von Stechow 2004)

(100)



Second, the grammaticality and the interpretation of (98) indicate that something else must be responsible for the availability of the perfective and for its future orientation. Todorović (2015b, 2015c) argues that there is a future/modal *woll* component in the structure of these complements which extends the reference time interval and allows for the inclusion of the event time interval in it – the perfective then can satisfy its requirements and is correctly predicted to be allowed in the structure (for a detailed discussion, see Todorović 2015b; for English, see Abusch 1985, 1988, Wurmbrand 2014 ; see Todorović and Wurmbrand (to appear) for arguments that *woll* is licensed by syntactic valuation of its irrealis feature by the embedding verb). Regarding future interpretation, it comes from a modal context, which allows for quantification over possible future world-time pairs (Abusch 1985, 1988, 1997; see also Matthewson 2006, Cable 2013, *i.a.*) − perfective requires a component that would open up the future for it, because its own semantics does not contribute it.

Todorović (2015c) and Todorović and Wurmbrand (to appear) argue that the covert *woll* occurs not only in future-irrealis complements, but also in exclamatives/wishes (101), in questions (102), and in antecedents of conditionals (103) (cf. Chinese examples in (81) and (82)). In all these irrealis environments (for the irrealis nature of questions, see Givón 1995:119,

Palmer 2001:172−173, Mauri 2008:175, Magni 2010:243), *woll* brings in the modal flavor. Crucially, in all these environments, perfective is felicitous.

(101) Da ti se sve želje ostvare!

DA you.dat SE all wishes come.true.**pf.**3.pl.pres

'May all your wishes come true!'

(102) a. Da Vesna pročita ovu knjigu?

DA Vesna read.**pf**.3.sg.pres this book

'Should Vesna read this book?'

(Vrzić 1996: 292: (2a))

b. Da li da Vesna pročita ovu knjigu?

Q DA Vesna read.**pf**.3.sg.pres this book

'Should Vesna read this book?'

(Vrzić 1996: 292: (2b))

c. Koju knjigu da Vesna pročita?

which book DA Vesna read.**pf**.3.sg.pres

'Which book should Vesna read?' [translation corrected]

(Vrzić 1996: 292: (2c))

(103) Ako kupim kuću sutra na konju sam!

if buy.**pf**.1.sg.pres. house tomorrow on horse am

'If/when I buy a house tomorrow, I am good!'

We are now equipped to capture the lack of perfective with future interpretations in propositional and tenseless complements. In the propositional complement in (104) (cf. (91b)), there is no *woll* component (note that this is also not an irrealis environment in which covert *woll* would be licensed). Again, the adverbial alone cannot license the future interpretation. However, once *woll* is introduced in the structure, as in (105), perfective becomes felicitous, which is exactly what is predicted by the analysis.

(104) *Verujem da Jovan prevede pesmu.
believe.1.sg.pres. DA Jovan translate.**pf.**3.sg.pres poem
Intended interpretation: 'I believe that John has translated a poem (just now).'

(105) Verujem da <u>će</u> Jovan sutra kupiti kuću.
believe-1.sg.pres. DA will Jovan tomorrow buys.3.sg.**pf**.inf house
'I believe that John will have bought a house tomorrow.'

With tenseless complements in (106), which Todorović and Wurmbrand 2015 argue project a reduced complement structure, i.e. project only the Θ-domain (cf. Grohmann 2003 for the division of clausal domains), there is no place for *woll* in the structure and future interpretations are altogether excluded. Instead, the verb selects a tenseless complement.

(106) a. *Pokušavam da sutra prevodim pesmu.

try.1sg.pres DA tomorrow translate.**impf.**1.sg.pres poem

'I am trying to translate a poem tomorrow.'

b. *Pokušavam da sutra prevedem pesmu.

tried. 1sg.pres DA tomorrow translate.**pf.**1.sg.pres poem

'I am trying to translate the entire poem tomorrow.'

A potential counter-example for the proposed analysis is (107) (cf. (93b)), where the perfective is allowed despite the lack of *woll* component, i.e. despite the lack of extension of the reference time interval for the perfective (note that this is not an irrealis environment in which *woll* would be licensed).

(107) Pokušavam da prevedem pesmu.

tried. 1sg.pres DA translate.**pf.**1.sg.pres poem

'I am trying to translate the entire poem.'

A potential solution here can be established along the lines of Sharvit (2003), who argues that *try* includes the extensional, as well as the intensional component. The intensional component introduces an unrealized presupposition, i.e. the event is not realized at the time of trying, but it continues as part of the subjects' beliefs. This component would then provide the needed extension for perfective, explaining why this form is felicitous in (107).

Finally, note that imperfective allows for the future interpretation in all the environments discussed above, even in the absence of the future-oriented component. I propose that the

analogy with English can provide an explanation for this. In particular, Serbian imperfective is in certain respect similar to English progressive, based on evidence from VP-ellipsis (Todorović 2014b; see also Chapter 3) and temporal interpretations (Todorović 2015b). The parallelism can then also hold in one more property – Serbian imperfective may, like English progressive, also contain a modal component (in addition to a temporal component), which quantifies over possible continuations, and licenses its future interpretations (cf. Dowty 1979, Landman 1992 for English). This would capture the availability of the imperfective even in future-oriented environments in which the perfective is not felicitous. Furthermore, such an analysis would also be in line with the claim that it is not the adverbial that licenses future interpretations in such cases.

4.5.3 Open-ended questions

There are cases which require further consideration: in some languages, the perfective either cannot occur in some future-oriented environments or it denotes future interpretation in the apparent absence of a future-licensing element.

Consider first Chinese. Although Chinese uses modal auxiliary *hui* (Lin 2006) to denote future, only imperfective marker *zhe* and progressive marker *zai* can co-occur with it, as in (108), and (109), respectively. Crucially, the perfective marker *le* cannot be used, as shown in (110).[122]

[122] Unlike *le, guo* can be used in future (i), but without *hui* (ii). *Guo* has been reported to denote something similar to English Perfect, rather than perfective (Klein, Li & Hendriks 2000).

(108) Qiang shang hui gua-zhe yi-fu hua.

wall on will hang.Asp one-cl picture

'There will be a picture hanging on the wall.'

(109) (Wangshang) ni hui-bu-hui hai zai jia-ban.

night you will-not-will still Prog work-overtime

'Will you still be working overtime at night?'

(Lin 2006:20)

(110) *Lisi hui likai-le bangongshi.

Lisi will leave-pf. office

'Lisi will have left the office.'

(Lin 2006:19)

There are two existing accounts of the incompatibility of *hui* and perfective marker *le.* One is provided by Smith and Erbaugh (2005). However, rather than discussing this incompatible combination, they focus on the necessary past interpretation of perfective marker *le* (which in turn implies the incompatibility of *hui* and *le*). According to Smith and Erbaugh (2005), bounded events are not located in the present, but receive past interpretation because, pragmatically, we choose the interpretation that requires the least additional information. Future, on the other hand, includes an additional modal component, an additional factor of uncertainty, and it is thus more complex. A problem that arises with this approach is that, if perfective is pragmatically

---

(i) Wo dao zhousi jiu shi gou gǒuròu le.
I until Thursday only try guo dog.meat le
'I will have tried dog meat by Thursday.'

(ii) Wo hui zai zhousi zhiqian shi (*guo) gǒuròu.
I will PREP Thursday before try guo dog meat

infelicitous with future interpretation, that does not entail that it should be ungrammatical with the modal *will.* Rather, it should be marked or rarely used. This is indeed what Smith and Erbaugh (2005) observe with imperfectives in Chinese: imperfectives with unbounded events rarely receive past interpretation, but, when they do, they are still grammatical in these environments.

The second account is provided by Lin (2006), who argues that there is a type of mismatch between the perfective marker *le* and *hui* (simplifying the analysis grossly).[123] A problem with this is that there is a mechanism in Lin's analysis which can resolve this type mismatch, namely, Existential closure, which is independently argued to apply at the IP level, but it is stipulated not to occur at the AspP level where the aspect is located. I leave the account of the illicit combinations in question in Chinese open at this point.

Another open issue concerns cases from Russian, Polish and Czech in which morphological present specified for perfective expresses future, as in (111) (in addition to a periphrastic form that is used with imperfective verbs). According to the analysis proposed in this section, there would need to be a covert future component in the structure that would allow for the perfective.

(111) Misha napishet pis'mo. (Russian)
Misha writes.perf letter
'Misha will write a letter.'

I leave the account of the illicit combinations of aspect and modal element in Chinese and the licit occurrence of perfective in Russian as a subject for further research.

[123] In Lin's (2006) analysis, perfective is aspectual-temporal in nature, whereas imperfective is strictly aspectual in Chinese.

4.6 Conclusion

In this Chapter, I discussed how temporal interpretations are achieved in the absence of TP. I have shown that temporal interpretations can be achieved through either Tense or Aspect, which means through either traditional tense-dedicated or aspect morphology. In light of the proposal that the lack of temporal morphology leads to the lack of TP, hinted at in Chapter 1 and explored in more detail in Chapter 5, absence of temporal morphology in a language should lead to rich aspectual morphology, which is needed to express temporal relations. Given the tendency to minimize redundancy, I also claimed that languages with rich aspectual morphology tend not to have pure temporal morphology. On the example of Serbian, I showed that, in the absence of TP, temporal interpretations can be derived by means of perfective and imperfective aspect, aspectual component Perfect and the modal component *woll.*

Furthermore, I showed that the so-called aspectual tenses, i.e. Aorist and Impefectum, observe aspectual restrictions in Serbian, but not in Bulgarian. I argued that the parametric variation in the presence or absence of the TP layer, where TP is present in Bulgarian and absent in Serbian, accounts for the distribution of aspect with Aorist and Impefectum in these two languages. Given that Serbian and Bulgarian also differ with respect to the availability of VP-ellipsis under finiteness mismatches, the presence/absence of the TP-layer can provide a systematic explanation for these two seemingly unrelated phenomena. Furthermore, the difference in the semantic properties of what has traditionally been labeled as tense in these languages suggests that these labels should not be taken for granted and should be subject to further re-examination (see also Chapter 5 on the semantic properties of participles in Slavic languages and the Imperfectum in Romance languages).

Regarding temporal interpretation, by assuming that Tense is a deictic category, which means that it is necessarily anchored to the UT, I showed that the absence of Tense in Serbian can account for a range of non-deictic interpretations of periphrastic past, future forms and Aorist, which are otherwise puzzling under the analysis which posits Tense in Serbian, thus providing further argument for the lack of TP in Serbian from this perspective. Finally, the distribution of aspect in certain matrix and embedded environments in Serbian indicates that morphological present in those contexts cannot be taken to be semantic present.

CHAPTER 5: MORE ON DIAGNOSING THE PRESENCE OF TP

In Chapter 1, it was argued that the presence of the TP-layer should be correlated with the presence of DP in the language, more specifically, that languages which lack DP also lack the TP-layer. This claim was based on Bošković (2012), who argues for a cross-linguistic structural difference in the nominal domain, i.e. NP vs. DP, and suggests that the parametric variation in the nominal domain can have its parallel at the clausal level. If DP is the counterpart of IP, and assuming a parallelism between a nominal and a clausal domain, then, Bošković suggests, a language that lacks DP would also lack TP (see also Abney 1987 and Ormazabal 1991 for the correlation between DP and TP; see also Migdalski 2013 for a correlation between the type of clitization and the Tense loss in Slavic languages).[124] Along these lines, this Chapter will show that languages that have independently been classified as article-less languages, in addition to displaying a number of other TP-related properties (e.g. Sequence of Tense effects, expletives, subject-object asymmetries, as discussed in Chapter 1), also lack pure temporal markings (see also Chapter 1 for independent evidence of morphological grounding of the parallelism based on language acquisition).

Additional evidence that the nominal and the clausal domain should be correlated was provided in Chapter 2, which discussed the availability of finiteness mismatches under VP-ellipsis, and in Chapter 4, which discussed the restrictions on aspectual specification under aspectual tenses, Aorist and Imperfectum. More specifically, these two phenomena split languages into two

[124] Ritter and Wiltschko (2014) advocate a similar idea of IP and DP being the anchoring domains, with Infl and D being the anchoring categories, i.e. they argue that the function of Infl and D is to locate the event or individual in time and space. Their analysis crucially does not posit CP as the counterpart of DP. Instead, CP is the clausal counterpart of KP, with these two domains linking the existing structure to a higher structure (e.g. Bittner & Hale 1996).

groups which match with the split between NP and DP languages; regarding the former phenomenon, all languages that disallow finiteness mismatches under VP-ellipsis are DP languages, while those that allow for it are NP languages. Regarding the latter, aspectual tenses are unconstrained in Bulgarian, a DP language, while they are constrained in Serbian, an NP language. In this Chapter, I provide another diagnostics for the presence/absence of TP which will confirm the correlation between the two domains: all the languages that are classified as no-TP languages are also NP languages, while the TP languages are those which have been independently argued to be DP languages.

One issue, however, still remains regarding the proposed structural parallelism between the two domains. Namely, it is still not entirely clear why exactly the observed parallelism should be tied to the correlation in terms of the presence or absence of DP and TP. In other words, why is the TP layer, and not for example the CP layer (see e.g. Grohmann and Haegeman 2003, Haegeman 2004, Alexiadou et al. 2007, *i.a.*) or even the VP layer (Larson 2014), taken as the counterpart of DP; in fact, at this point, there seems to be no consensus on this issue. Bošković (2012) suggests that, from a theoretical point of view, the parallelism between DP and TP finds its motivation in subjecthood, given that both SpecTP and SpecDP are the locus of subject movement. Another correlation he proposes is in terms of morphological realization of the Agree relation between a functional and a lexical head in the two domains. Regarding the nominal domain, Bošković observes that number morphology may not be obligatory only in NP languages. Based on the obligatory number morphology in DP, but not in NP languages, Bošković gives an account whereby the number morphology of D must be morphologically realized. More specifically, the Agree relation between D and N in terms of number (Longobardi 1994) requires morphological realization of D (to be specified immediately). Regarding the

clausal domain, Bošković explores the necessity of morphological realization of the Tense feature in the Agree relation between T and V (see Pesetsky and Torrego 2007 on this Agree relation). Capturing formally the necessity of morphological realization observed across domains, Bošković proposes the requirement in (1), where *i*K stands for an interpretable feature, and F for a functional head. In the case of number morphology, given the feature specifications of D in (2), the Agree relation between D and N imposes morphological realization of number under (1). In terms of the clausal domain, Bošković assumes the feature values as per Pesetsky and Torrego (2007), given in (3). The requirement in (1) imposes morphological realization of Tense, since T has unvalued, interpetable features. What happens then if T is not realized? Bošković suggests that the lack of morphological realization of Tense in a language can be taken as an indication of the lack of TP in that language. Importantly, the generalization in (1) can capture the necessity of the morphological realization of a functional head across domains, and, more generally, it unifies the nominal and the clausal domain in terms of DP and TP properties.

(1) Unvalued *i*K of F must be morphologically realized.

(2) D (unvalued, interpretable #) N (valued, interpretable #)

(3) T (unvalued, interpretable Tense) V (valued, uninterpretable Tense)

However, even if one embraces these theoretical assumptions, and if, additionally, the clausal-level phenomena can be explained by resorting to the properties of the nominal domain, additional motivation is still required to strengthen the structural parallelism between these two projections, TP and DP. In fact, Bošković himself observes that (1) can be stated differently in a way that morphological realization of number is still required (for DP languages), but Tense is

not required to have morphological realization. More specifically, if (1) is modified as in (4) with proxy defined as in (5) − where F stands for a functional and L for a lexical head − then the Tense morphology will not be obligatorily realized, since the Tense feature on V is uninterpretable. On the other hand, number morphology on D would still need to be realized, since the number feature on N is interpretable.

(4) Proxy values must be morphologically realized.

(5) Proxy: unvalued *i*K of F which receives its value from *i*K of L.

This shows that while it is possible to establish a DP/TP correlation theoretically, it is also easy to divorce the two. In light of this, while the correlation between the domains explored in Chapter 2 and Chapter 4 still holds and remains intact, namely the correlation between the presence of DP and the presence of TP in a language as established in Chapter 1, I would like to explore an alternative approach to determining the presence/absence of TP in a language.

Correlating the presence of overt morphology with structural representation, I would like to pursue the idea that the systematic absence of overt temporal morphology in a language may be a reflex of structural deficiency. More specifically, I propose that TP must be realized by overt temporal morphology; languages without overt temporal morphology lack TP.[125] This idea of the absence of TP in a language in the absence of overt temporal morphology has also been entertained for individual languages such as Yukatek Maya (Bohnemeyer 2002), Chinese (Lin

[125] As noted in Chapter 1, this possibility was hinted at in Bošković (2012), but not really established and explored or even endorsed there.

2003, 2006), Halkomelem Salish (Wiltschko 2003),[126] Paraguayan Guaraní (Tonhauser 2011), Slovene, Czech, Slovak, Polish, Serbian (Migdalski 2013), Russian (Jung & Migdalski 2014), Hausa (Mucha 2013), Turkish (Zanon 2014), Korean (Kang 2014); cf. Matthewson 2006 for Lillooet Salish; cf. Ritter and Wiltschko (2014). Importantly, since all these studies deal only with individual languages or small groups of related languages, the claims that these authors make regarding the presence of absence of TP are confined to those languages; no broader cross-linguistic claims are made, i.e. none of these authors give an analysis that will make a prediction for any language regarding whether it will, or it will not, have TP. In contrast, I would like to make a more general proposal to this effect which grounds the relevant distinction morphologically: languages without overt temporal morphology systematically lack the TP layer. Such a proposal extends beyond the observed languages, making a prediction that any language without overt temporal morphology lacks TP.[127] Under this view, there is still a correlation between the presence of DP and the presence of TP, but it is much more abstract now: the absence of morphological realization is the reflex of structural deficiency in terms of the absence of a particular projection, i.e. DP and TP, respectively (see also Chapter 1).

In what follows, I discuss some individual languages from this perspective. In section 5.1, I discuss the present tense paradigm of Bulgarian and contrast it with Serbian. I show that the difference between these two languages is that in Serbian, there is no morphology that can be treated as temporal – only the agreement morphology is observed – whereas in Bulgarian, in addition to agreement morphology, there is a constant piece of morphology that can be classified

[126] According to Wiltschko (2003), in Halkomelem Salish, temporal morphology is present in the nominal domain, but not in the verbal domain, which she takes as an indication for the absence of TP in the language (Wiltschko argues that a number of TP-related syntactic diagnostics fail in Halkomelem Salish; but see Matthewson 2005 for a different perspective).

[127] As illustrated on the example of Serbian in Chapter 4, in the absence of TP, temporal interpretations can be conveyed by the means of aspectual and modal components.

as temporal. In section 5.2, I show that Slovenian and Polish pattern with Serbian in this respect. Taking the absence of temporal morphology as the diagnostics of the presence of TP, the classification of Slovenian and Polish as no-TP languages further confirms the classification of these languages assumed in Chapter 2. Section 5.3 discusses Russian, comparing it with other Slavic languages. Section 5.4 returns to Bulgarian and discusses temporal morphology in Aorist and Imperfectum forms, which I argued in Chapter 4 to be temporal in nature in Bulgarian. More broadly, this Chapter is aimed at showing that, cross-linguistically, traditional labels of verbal forms, which are predominantly taken for granted, are very often incorrect. I thus call for a re-examination of their status by exploring their distribution, i.e. semantic properties. From this point of view, I show that traditionally labeled past participles in Slavic languages are not restricted to past interpretation. Moving beyond Slavic, I extend the exploration to Romance languages in section 5.5, where I re-examine the status of tense forms based on their distribution in European Portuguese, Romanian, French, Italian and Spanish. In section 5.6, I discuss the languages from Chapter 2 under the newly proposed diagnostics where the TP status of a language depends on the presence of temporal morphology. It is shown that all the languages that were classified as TP languages in Chapter 2 retain that status even under this diagnostics. Section 5.7 concludes the Chapter.

5.1 Present tense in Serbian and Bulgarian

In this section, I discuss the present tense paradigm of Bulgarian and Serbian. While in Serbian only agreement morphology can be detected, Bulgarian has temporal morphology, in addition to

agreement morphology. If the presence of overt temporal morphology is taken as an indication of the presence of TP, then Bulgarian is to be classified as a TP and Serbian as a no-TP language, aligning with the split from Chapter 1 in terms of the correlation with the DP-layer (Bulgarian is a DP and Serbian is an NP language).

5.1.1 Present tense paradigm in Bulgarian

Like other Slavic languages, Bulgarian has overtly realized aspect. It also has a rich array of forms receiving different temporal interpretations. In addition to Aorist and Imperfectum discussed in Chapter 4, Bulgarian uses a synthetic form for morphological present; in (6), this form receives the interpretation ongoing at the UT.[128] Two periphrastic forms comprising of participle(s) and an auxiliary capture Present Perfect (7) and Past Perfect interpretations (8).[129] Finally, periphrastic future form is composed of the invariant element *shte* and morphological present tense, as in (9).

(6) (Tja) (ne) pishe pismoto.
she neg write.impf.pres the.letter
'She is(n't) writing the letter.'

[128] Examples in (6)-(9) are from Rivero (2005).
[129] All these forms can convey information about indirect evidentiality, in which case they have a different morphological shape (see Izvorski 1997 for a semantic analysis of Bulgarian Perfect).

(7) (Tja) (ne) e pisala pismoto.

she neg is write.impf.part. the.letter

'She has(n't) written the letter.'

(8) Tja (ne) beshe pisala pismoto.

she neg be.3.sg.IMPF write.impf.part. the.letter

'She had(n't) written the letter.'

(9) Tja shte da pishe pismoto.

she fut.impf. DA write.impf.pres. the.letter

'She will write the letter.'

This section discusses the morphological make-up of the present tense forms (I return to Aorist and Imperfectum in section 5.4). First, note that, depending on the theme vowel, Bulgarian has three conjugations. Regarding the morphological make-up of synthetic forms, Scatton (1984) observes that Bulgarian follows the pattern in (10) which, in addition to an agreement suffix, also includes a tense suffix.

(10) stem +tense suffix + agreement suffix

In (11), I illustrate a partial paradigm of the present tense of the verb *čita* 'read', which belongs to the traditional first conjugation. The left column shows the underlying forms, while the right column illustrates the surface forms.

(11) Present tense forms in Bulgarian, first conjugation

Stem /tʃɛt̪/ 'read'	Underlying form	Surface form
2sg	/tʃɛˈt̪+ɛ+ʃ/	/tʃɛˈt̪ɛʃ/
3sg	/tʃɛˈt̪ +ɛ/	/tʃɛˈt̪ɛ/
1pl	/tʃɛˈt̪ +ɛ+m/	/tʃɛˈt̪ɛm/
2pl	/tʃɛˈt̪+ ɛ+t̪ɛ/	/tʃɛˈt̪ɛt̪ɛ/

Consider the underlying forms in (11). The final suffixes in these forms are agreement markers (except in the 3sg, which does not have an overt agreement marker). Regarding the vowel that is constant in the surface forms in (11), i.e. /ɛ/, Scatton argues that it is the present tense suffix.

Now, consider the surface forms of 1sg and 3pl in (12). What we observe is that the agreement markers are vowel initial and that the tense marker is absent from the surface form.

(12) Present tense forms in Bulgarian, first conjugation

Stem /tʃɛt̪/ 'read'	Underlying form	Surface form
1sg	/tʃɛˈt̪ + ɛ + ɤ/	/tʃɛˈt̪ɤ/
3pl	/tʃɛˈt̪ + ɛ +ɤt̪/	/tʃɛˈt̪ɤt̪/

Scatton (p.c. with Steven Franks) suggests there is a rule of vowel deletion in the paradigm of Bulgarian verbs, specifically, a vowel is deleted in front of another vowel, as per (13).[130] This

[130] See Scatton (1984) for some exceptions.

rule captures the absence of the tense vowel in (12): since agreement markers are vowel initial, the Tense vowel is deleted in front of it. [131]

(13) V→Ø/ _V

What is important here is that Scatton argues that there is an overt temporal marker in the present tense forms of Bulgarian. In section 5.4, I will discuss Imperfectum and Aorist in Bulgarian, which I show also have Tense marker.

5.1.2 Present tense paradigm in Serbian

I now turn to the Serbian present tense paradigm. Like Bulgarian, Serbian has rich verbal morphology.[132] There are also three conjugations, depending on the thematic vowel in the stem, the *a*-conjugation, the *e*-conjugation and the *i*-conjugation. However, Serbian differs from Bulgarian in one relevant respect: despite the richness of verbal morphology, there are no morphemes that can be singled out as temporal markers. Instead, what is traditionally assumed to be tense morphology actually denotes agreement markers.[133] This is illustrated in (14) for the traditional present tense – there is no systematic affix that would indicate the presence of tense in

[131] According to Scatton, it is also possible to posit an underlying thematic vowel as a part of the stem. Crucially, this does not affect the analysis proposed here, since this vowel would also not surface due to the rule in (13) (hence I ignore it here).
[132] See Chapter 3 for the discussion of the available aspectual specifications and their semantic contribution in Serbian.
[133] See section 5.4.2 for the source of agreement markers.

these forms. Instead, agreeement markers are added directly to the stem.[134] The difference between Serbian and Bulgarian present tense paradigm is in the presence of a constant piece of morphology in Bulgarian (which Scatton argues is temporal mophology), but not in Serbian. If the presence of temporal morphology is to be taken as an indication of the presence of TP, then Bulgarian is to be classified as a TP and Serbian as a no-TP language.

(14) Inflectional paradigm of the traditional present tense in Serbian

	a-conjugation *spavati* 'to sleep'	*i*-conjugation *raditi* 'to work'	*e*- conjugation *krenuti* 'to start going'
1sg	spava-m	radi-m	krene-m
2sg	spava-š	radi-š	krene-š
3sg	spava-ø	radi-ø	krene-ø
1pl	spava-mo	radi-mo	krene-mo
2pl	spava-te	radi-te	krene-te
3pl	spava-ju	rad-e	kren-u

5.2 Slovenian and Polish

This section illustrates the paradigm of two additional Slavic languages discussed in Chapter 2, Slovenian and Polish. Recall that both these languages were classified as no-TP languages (they

[134] The morphological make-up of two other synthetic forms in Serbian, Aorist and Imperfectum, is discussed in section 5.4.

have also been independently argued to be NP languages). Thus, as discussed in Chapter 2, Polish and Slovenian pattern with Serbian in allowing VP-ellipsis under finiteness mismatches.

5.2.1 Slovenian

Regarding its aspectual composition, Slovenian is aspectually rich, similar to Serbian. Aspect is always marked on the verb stem; there are also a variety of prefixes that derive perfective aspect, as, for example, in (15) and (16).

(15) Miha prepisova pisma.
Miha rewrites.impf. letters
'Miha is rewriting (the) letters.'

(16) Miha vsak dan <u>pre</u>piše pismo.
Miha every day rewrites.pf. letter
'Miha rewrites a letter every day.'

Regarding its temporal interpretations, past is obtained similarly to Serbian, i.e. with analytic forms composed of the Auxiliary *Be* and the l-particle, as in (17). Unlike Serbian, which still retains Old Slavic tenses Aorist and Imperfectum (although in limited use; see Chapter 4), Migdalski (2006, 2013) observes that these tenses have been limited to certain verbal forms

already in Old Slovenian (see also Vaillant 1966:60), and are completely absent from Contemporary Slovenian.

(17) Miha je udaril Ano.
Miha is hit.pf.part. Ana
'Miha hit Ana.'

Future forms are formed with the perfective *Be* and the l-participle, as in (18). Migdalski (2013) takes the occurrence of l-participle with both past and future interpretations in Slovenian as an indication that the participle is not specified for tense morphology.

(18) Vsi bodo dosegli svoj cilj.
everyone be-pf.1sg reach.part.part.smasc.pl. self's goal
'Everyone will reach his/her goal.'
(Franks & King 2000:33)

There is additional parallelism with Serbian: Slovenian lacks overt temporal morphology. (19) illustrates the present tense paradigm in Slovenian, with three conjugations. Only the agreement morphology is observed; there is no temporal morphology.

(19)

	glodati 'to gnaw' *a*-conjugation	*trditi* 'to harden' *i*-conjugation	*brati* 'to pick plants' *e*-conjugation
1sg	gloda-m	trdí-m	bere-m
2sg	gloda-š	trdí-š	bere-š
3sg	gloda-Ø	trdí-Ø	bere-Ø
1du[135]	gloda-va	trdí-va	bere-va
2du	gloda-ta	trdí-ta	bere-ta
3du	gloda-ta	trdí-ta	bere-ta
1pl	gloda-mo	trdí-mo	bere-mo
2pl	gloda-te	trdí-te	bere-te
3pl	gloda-jo	trdí-jo	bere-jo

5.2.2 Polish

Polish patterns with other Slavic languages in making use of rich aspectual morphology, which is always marked on the verb (on the stem and potentially with an array of affixes). Morphological present forms that occur with imperfective aspect receive ongoing interpretation

[135] In addition to singular and plural, Slovenian morphologically marks dual. *Glodava/trdíva/bereva* are forms used in literary Slovenian; the majority of speakers use *glodama/trdíma/berema* instead.

(20), whereas perfective aspect on these forms results in future interpretation (21) (see also Russian in section 2.11).

(20) Michał pisze listy.
Michael writes.impf. letters
'Michael is writing letters.'

(21) Michał przepisze jeden list dziennie.
Michael rewrites.pf. one letter daily
'Michael will rewrite a letter a day.'

Regarding temporal verbal forms, Polish, like the majority of Slavic languages, lost synthetic tenses, Aorist and Imperfectum. And unlike those Slavic languages which derive past interpretations with a periphrastic construction formed of Aux and participle, in Polish Auxiliary clitic has been reanalyzed as an affix on the l-participle (22a). When it is used as a copula, Auxiliary appears in the full form, as in (22b).

(22) a. Czytał-em książkę.
read.part.masc.sg-aux.pres.1sg. book
'I (have) read a book.'

b. Jestem zadowolony.
be.pres.1sg. glad-masc.sg
'I am glad.'

Similarly to Slovenian, forms receiving future interpretations contain the perfective form of the auxiliary *Be* and the l-participle. As in the case of Slovenian, Midgalski (2014) takes the fact that l-participle occurs with both past and future interpretations as an indication that participle is not specified for tense morphology in Polish.

(23) Jan będzie pisał list.
Jan be-pf.1sg. write-part.masc.sg letter
'Jan will be writing a letter.'
(Migdalski 2006:17)

Regarding morphology in traditional present tense forms, Polish patterns with Serbian and Slovenian: there is only agreement morphology, but no tense morphology, as in (24).

(24)

	znać 'to know' *a*-conjugation	*robić* 'to make, to do' *i*-conjugation	*jeść* 'to eat' *e*-conjugation
1sg	zna-m	robi-ę	je-m/zje-m
2sg	zna-sz	robi-sz	je-sz
3sg	zna-Ø	robi-Ø	je-Ø
1pl	zna-my	robi-my	je-my
2pl	zna-cie	robi-cie	je-cie
3pl	zna-ją	robi-ją	je-dzą

As discussed above, the morphological present is the only synthetic form that these languages use. And even this form does not have temporal morphology. In that respect, these languages are to be classified with Serbian under the classification which correlates the presence of TP with the presence of temporal morphology – given the lack of overt temporal morphology, I argue that these languages are to be treated as no-TP languages.

Note, finally, that one more point needs to be made regarding the semantic distribution of different forms. As noted above, Migdalski 2013 argues that so-called past participles in Slavic are not truly past forms, based on their temporal distribution (see also Migdalski 2006 for the discussion of adjectival properties of l-participles in Slavic). This will be further confirmed in the discussion of Russian participles in the next section. This is reminiscent of the re-examination of the status of traditionally labeled aspectual tenses in Serbian and Bulgarian in Chapter 4. The behavior of aspectual tenses and past participles indicates that the established labels are misleading and require further re-examination. For additional discussion, see section 5.5 on Romance languages.

5.3 Russian

The following section discusses verbal forms in Russian. Russian, like other Slavic languages, makes use of a rich aspectual system. Similarly to Polish, with morphological present forms, only imperfective aspect derives present time interpretations, as in (25), whereas present perfective forms receive future interpretations, as in (26). Future forms of imperfective verbs are obtained by a periphrastic form containing the Auxiliary *Be* and the infinitive, as in (27).

(25) Misha pishet pis'mo.

Misha writes.impf. letter

'Misha is writing a letter.'

(26) Misha napishet pis'mo.

Misha writes.pf. letter

'Misha will write a letter.'

(27) Petr ne budet obizhatj Mariju.

Petr not be.impf. hurt.inf. Marija

'Petr won't be hurting Maria.'

As is well-known, Russian does not make use of Auxiliary copular *Be,* as in (28). Not surprisingly then, forms receiving past interpretation only have the lexical verb in a participial form, as in (29).

(28) Ya student.

I student-nom

'I am a student.'

(29) Ana napisala pis'mo.

Ana write.part.fem.sg letter

'Ana wrote a/the letter.'

I assume that the Auxiliary, although phonologically null in (29), is present in the structure (see also Pitsch 2015*, i.a.*). More specifically, I propose that, similarly to Serbian, Russian forms as in

(29) contain a Perfect component which is responsible for the past-oriented interpretation (see Chapter 4 for more detailed discussion). The difference from Serbian forms receiving past interpretation is that the Auxiliary in Russian is phonologically null. Crucially, I argue that participles in Russian are not responsible for the past interpretation (see also the discussion of Slovenian and Polish above).

If participles in Russian do not contain past tense component, then we expect this form to occur in non-past environments, as in other Slavic languages. This prediction is borne out. Although forms receiving future interpretations in Russian do not contain a participle (as they do in Slovenian and Polish), in the subjunctive conditionals, participles are the only attested form, as shown in Asarina (2006). Consider first the antecedents in (30); the contrast between (30a,b) and (30c) shows that only participial forms are grammatical in the antecedents of conditionals.

(30) a. *Esli by Petja <u>est</u> (sejchas) jabloko...
if SUBJ Petja eats.impf. (today) apple

b. *Esli by Petja <u>s''est</u> / <u>budet est'</u> (zavtra) jabloko...
if SUBJ Petja will.eat-pf. / will eat.impf. (tomorrow) apple

c. Esli by Petja <u>s''el</u>/ <u>el</u> vchera/sejchas/zavtra jabloko...
if SUBJ Petja ate.pf./ ate.impf. yesterday/today/tomorrow apple
'If Peter ate/were eating an apple now/tomorrow...'
'If Peter had eaten/had been eating an apple yesterday…'

The same holds with the consequents of conditionals: the participial is the only attested form, as in (31a), as opposed to (31b,c).

(31) a. Esli by Petja s''el jabloko,

if SUBJ Petja ate.pf. apple

on by vchera/segodnja/ zavrtra vyzdrovil/vyzdoravlival.

he SUBJ yesterday/today/tomorrow got.better.pf./ got.better.impf.

b. *Esli by Petja s''el jabloko,

if SUBJ Petja ate.pf. apple

on by (segodnja) vyzdoravlivaet.

he SUBJ (today) gets.better-impf.

c. *Esli by Petja s''el jabloko,

if SUBJ Petja ate-pf. apple

by (zavtra) vyzdorovit /budet vyzdoravlivat'.

SUBJ (tomorrow) will.get.better-pf. / will get.better- impf.

'If Peter ate an apple, he would get/be getting better today/tomorrow.'

'If Peter had eaten an apple, he would have gotten/been getting better yesterday.'

Crucially, as indicated by the English translation of (30) and (31), these conditionals do not necessarily receive past interpretation, which supports the claim that participles are not specified for past tense. If that were the case, it would be difficult to account for the non-past interpretations of conditionals.[136] Given that participles are not restricted to past interpretation, they cannot be considered to be past tense forms. Thus, the only form left which can be considered temporal is morphological present tense. I discuss its distribution below.

[136] See Asarina (2006) for a formal analysis of 'fake' past in these environments.

Russian verbs belong to two conjugations. The first conjugation has thematic vowels –u, –o, or –a when preceded by a sibilant. The second conjugations has thematic vowels –i, –e, and –a, when not preceded by a sibilant. Table in (32) shows the present tense paradigm of the Russian verb *delatj* 'to work', which belongs to the first conjugation. *Del* is the root, –a is the theme vowel (in Jakobson's 1948 account, –j is also part of the theme). There is an additional vowel –e in 2sg, 3sg, 1pl and 2pl form. According to traditional grammars, this vowel is part of the agreement suffix. Unlike these forms, 1sg and 3pl forms contain an agreement suffix whose initial vowel is –u (which is the only vowel in 1sg).

(32) Russian present tense: First conjugation

delatj 'to do'	Underlying Form	Surface Form
1sg	del-aj-u	delaju
2sg	del-a-eš	delaeš
3sg	del-a-et	delaet
1pl	del-a-em	delaem
2pl	del-a-ete	delaete
3pl	del-aj-ut	delajut

Now consider the second conjugation example in (33). The vowel –e, which is otherwise observed in the first conjugation in (32), does not surface. As shown in the right column, –e is not present in the surface forms of 2sg, 3sg, 1pl and 3pl. Instead, we observe the vowel –i in these forms. 1sg is introduced by the suffix –u, and 3pl by the suffix –at (see Jakobson 1948).

(33) Russian present tense: Second conjugation

grabit 'to rob'	Surface forms
1sg	Grablju
2sg	Grabiš
3sg	grabit
1pl	grabim
2pl	grabite
3pl	grabjat

Instead of positing different agreement markers for the two conjugations, I propose that –e is also underlyingly present in the agreement suffix in the forms in (33), as it is in (32). However, this vowel does not surface due to the rule in (34). Since the thematic vowel in these forms is –i, the initial vowel of the agreement marker is deleted (note that 1sg and 3pl forms remain unaffected by the rule).

(34) e →Ø/ [+high, -consonatal] ___

Finally, note that the vowel which I analyze as part of the agreement marker does not necessarily need to be realized as –e. Rather, the vowel is rounded in a stressed position (Jakobson 1948). In (35), the stem ends in a consonant, and the final syllable is stressed; the final vowel is –o, written as ë in a stressed position in a word.

(35)

Infinitive nes-ti 'to carry'	Surface form
1sg	nes-u
2sg	nes-ëš
3sg	nes-ët
1pl	nes-ëm
2pl	nes-ëte
3pl	nes-út

I thus follow the segmentation assumed in traditional grammars where the agreement markers are vowel initial, suggesting that this vowel is underlyingly constantly present, but that it does not surface when it occurs in the context of a high vowel. The forms in question then follow the pattern in (36):

(36) stem + thematic vowel + agreement marker

Now, one can advocate for an alternative analysis of the Russian present tense paradigm. Jakobson (1948) argues that the vowel which we have analyzed here as part of the agreement marker should actually be treated as a present tense morpheme. This vowel would then be realized as high in unstressed position and as unrounded in soft open full stems, or rounded otherwise. The table in (37) offers such an alternative segmentation: *del* is a stem, −a is a

thematic vowel, −j is inserted by a rule, the penultimate morpheme is a tense vowel, and the final morpheme is an agreement marker.

(37)

	Underlying forms stem+theme+ tense+ agreement	Surface forms
1sg	del-aj-e-u	delaju
2sg	del-a-e-š	delaeš
3sg	del-a-e-t	delaet
1pl	del-a-e-m	delaem
2pl	del-a-e-te	delaete
3pl	del-aj-e-ut	delajut

The non-terminal single-vowel suffix – in this case the present tense suffix – would then be deleted in front of –u, as in the rule in (38).

(38) V →Ø/ _ u

This rule would then be operative with 1sg and 3pl forms in (37): the agreement marker is −u or it is u-initial, and the present tense vowel would be deleted in front of it.

Note, however, that the analysis that I proposed above is actually simpler: if –e is the agreement marker that occurs in 2sg, 3sg, 1pl and 3pl, it is deleted in the environment of a high vowel, but there is crucially no need to posit it and subsequently delete it with 1sg and 3pl,

simply because these forms have a different agreement marker; and this is what one would expect – different forms have different agreement endings. Jacobson, on the other hand, who posits a tense marker in the structure, is forced to have a uniform suffix, hence has to posit an additional mechanism that deletes it, which makes that analysis more complex.

Furthermore, the same problem arises with other conjugations, repeated in (40). Namely, Jakobson argues there is a more general law that any morpheme which ends with a vowel loses that vowel before a suffix beginning with a vowel, as in (39) (for vowel deletion rules in Russian, see also Halle 1959, Melvold 1989, Halle and Matushansky 2006, Iosad 2012, *i.a.*).

(39) V→Ø/ _V

Applied to the left column in (40), this rule would delete Jackobson's Tense marker in 1sg and 3pl, whose agreement markers are vowel initial. As for the second column of (40), although Jackobson does not explicitly state it, the vowel –i would need to be analyzed as a tense vowel, with the thematic vowel being deleted. Alternatively, the thematic vowel would need to be null, which seems highly unlikely, since it occurs in other verbal forms of this verb. Finally, note that the rule in (39) cannot capture the co-occurrence of the thematic vowel –a and the tense vowel –e in the paradigm in (37).

(40)

	nes-ti	grabi-t
1sg	nes-u	grablj-u
2sg	nes-ë-š	grab-i-š
3sg	nes-ë-t	grab-i-t
1pl	nes-ë-m	grab-i-m
2pl	nes-ë-te	grab-i-te
3pl	nes-ú-t	grabj-at

Suppose, however, that we still decide to pursue Jakobson's segmentation and the rules of vowel deletion. It can be then argued that such an analysis is reminiscent of the proposal outlined for the Bulgarian present tense paradigm in section 5.1. Recall that, according to Scatton, a vowel is deleted in front of another vowel in the relevant Bulgarian cases, which results in the deletion of a tense vowel in front of a vowel-initial agreement suffix. One could then advocate a unified analysis of Russian and Bulgarian paradigms. Such an approach could then suggest that there is a constant piece of morphology in Russian which is to be treated as a temporal morpheme. However, I argue that this is not the optimal solution.

First, Bulgarian and Russian do not always observe the same deletion patterns. As illustrated above, Jakobson's rules of vowel deletion are not always operative in Russian. On the other hand, vowel deletion proposed by Scatton for Bulgarian does hold. Consider again the two conjugations – one from Bulgarian and one from Russian in (41). In Bulgarian, only one vowel surfaces, due to the application of the vowel deletion rule, while this rule does not apply in all Russian forms which contain two vowels (with the exception of 1sg and 3pl). The way to fix this

problem in Russian would be to resort either to: 1) the initial rule in (38) which deletes a vowel only in front of –u, or 2) the rule which deletes a vowel in front of a high vowel. This would leave the tense vowels pronounced in most of the forms in (41), while deleting it in 1sg and 3pl. It would also delete it in (40), but the form *grabjat* would remain problematic because the vowel would be deleted even though it does not occur in front –u nor in front of a high vowel.

(41)

e-conjugation	**Bulgarian**	**Russian**
1sg	četa	delaju
2sg	četeš	delaeš
3sg	čete	delaet
1pl	četem	delaem
2pl	četete	delaete
3pl	četat	delajut

Second, even if one argues that there is a constant piece of morphology in both languages, it is not necessary to assume that this exponent is a tense marker. Recall that traditional grammars of Russian assume a segmentation of forms different from the segmentation proposed in Jakobson, i.e. the vowel −e is analyzed as an agreement marker. Above, I have shown how such a division can be accounted for in the approach which assumes deletion of vowels. In other words, segmentation which is different from Jakobson's is at least equally plausible and also less complex; labeling this morpheme as a tense morpheme is not pre-determined in Russian. Especially not so in light of the discussion from Chapter 4, where it was shown that traditional

labels should not be taken for granted, based on the distribution of Serbian Aorist and Imperfectum, and also in light of the discussion about participle forms in Slavic languages in this Chapter (additional evidence will be provided by the distribution of Imperfectum in Romance languages in section 5.5). Going back to the main discussion, if we decide to treat this morpheme as an agreement marker in Russian, one could also argue for the same treatment of the morpheme in Bulgarian (due to some similarities and similar deletion patterns), i.e. one could argue that, instead of a tense morpheme, the relevant piece of morphology is part of an agreement morpheme in Bulgarian as well. There would then be no temporal morphology in the present tense paradigm of either Russian or Bulgarian – both would be agreement markers (but see the discussion of Imperfectum and Aorist in Serbian and Bulgarian below, where the same morphological component is observed, but it does not have the same status in the two languages). The question that arises now is the following: if Russian and Bulgarian are to be treated the same way, would such an analysis jeopardize the TP status of Bulgarian? In other words, assuming that the presence of temporal morphology is an indication of the structural projection of TP, is Bulgarian now to be treated as a no-TP language? I argue that this is not the case – Bulgarian is still to be treated as a TP language according to the diagnostics proposed in this section.

Namely, Bulgarian uses Aorist and Imperfectum productively. As discussed in the following section, these two forms clearly have a constant piece of morphology. As argued in Chapter 4, Aorist and Imperfectum in Bulgarian show clear temporal properties (unlike in Serbian). I thus argue that the constant piece of morphology with these forms is in fact temporal morphology. Thus, even if the morphological make-up of present tense forms in Bulgarian were not to contain a temporal morpheme, the language still has a morphological reflex of TP in other forms which

are clearly temporal in nature. On the other hand, Russian does not make use of Aorist and Imperfectum, but it only uses participles, which I showed are not temporal in nature in Russian (see also Chapter 4 for Serbian). Thus, even if we adopt the analysis where there is no temporal morphology in Russian and Bulgarian present tense forms, the two languages would still differ, because temporal morphology occurs in Bulgarian with Aorist and Imperfectum. According to the analysis advocated in this Chapter, Bulgarian is then to be classified as a TP language, and Russian as a no-TP language. Such a division between Russian and Bulgarian fits well with the range of temporal interpretations in the two languages. It also aligns with the classification proposed in Chapter 1, as well as with the systematic patterning of these languages with respect to VP-ellipsis discussed in Chapter 2.

5.4 Aorist and Imperfectum: morphological make-up

5.4.1 Bulgarian Aorist and Imperfectum

This section discusses morphological properties of Bulgarian Aorist and Imperfectum forms. It is shown that these forms contain a constant piece of morphology. Given that their distribution, discussed in Chapter 4, indicates that these forms are temporal in nature, I argue that the morphology with these forms is temporal. The analysis advocated in this Chapter then classifies Bulgarian as a TP language.

Recall from section 5.1 that Scatton (1984) observes that Bulgarian follows the pattern in (42), and recall that his suggestion for vowel deletion as in (43) explains the lack of the co-occurrence of tense and agreement vowels in Bulgarian present tense forms.

(42) stem +tense suffix + agreement ending

(43) V→Ø/ _V

Note that, in addition to these components, there may also be a thematic vowel present in the surface verbal forms in Bulgarian, preceding the tense and the agreement suffix. The table in (44) illustrates the Imperfectum forms. The thematic vowel is /a/, while the Imperfectum suffix is /x/. Since the Imperfectum suffix is consonantal, the thematic vowel /a/ is not deleted. In the first and second conjugation, the thematic vowel with Imperfectum can be /a/, /ja/ in a stressed syllable, or /ε/ in an unstressed syllable. In the third conjugation, there is no thematic vowel, the Tense and agreement markers being added directly to the stem. Importantly, there is a constant piece of morphology with all these forms, namely, /x/.

(44) Imperfectum forms in Bulgarian, first conjugation

/tʃɛt̪/ ‘read’	Underlying forms	Surface forms
1sg	/tʃɛˈt̪ʲ+a +x/	[tʃɛˈt̪ʲax]
1pl	/tʃɛˈt̪+ʲa+x+mɛ/	[tʃɛˈt̪ʲaxmɛ]
2pl	/tʃɛˈt̪ʲ+a+x+t̪ɛ/	[tʃɛˈt̪ʲaxtɛ]
3pl	/tʃɛˈt̪ʲ+a+x+ə/	[tʃɛˈt̪ʲaxə]

Table in (45) illustrates the paradigm for Aorist in the first conjugation. What we see is the consistent presence of the suffix /x/, as in the case of Imperfectum. /o/ is the thematic vowel, which is preserved in the surface form, since it is followed by the consonant /x/ – rule in (43) does not apply. Note finally that Aorist forms have a variety of thematic vowels. Although undoubtedly more needs to be said about the distribution of these vowels, what is important for the current purposes is the consistent presence of the /x/ marker with these forms, which Scatton (1984) analyzes as the past tense (Imperfectum and Aorist) marker. Such a classifications fits well with the distribution of these forms discussed in Chapter 4, which I argued can be accounted for if these forms are temporal in nature.

(45) Aorist forms in Bulgarian, first conjugation

/tʃɛt̪/ ‘read’	Underlying forms	Surface forms
1sg	/ˈtʃɛt̪+o̯+x/	[ˈtʃɛt̪o̯x]
1pl	/ˈtʃɛt̪+o̯+x+mɛ/	[ˈtʃɛt̪o̯xmɛ]
2pl	/ˈtʃɛt̪+o̯+x+t̪ɛ/	[ˈtʃɛt̪o̯xt̪ɛ]
3pl	/ˈtʃɛt̪+o̯+x+ə/	[ˈtʃɛt̪o̯xə]

5.4.2 Aorist and Imperfectum in Serbian

This section aims to illustrate the composition of Aorist and Imperfectum forms in Serbian, which incidentally have the same morphological realization as in Bulgarian, i.e. they contain a morpheme /x/. However, this turns out to be irrelevant, given the important semantic difference between the Aorist and Imperfectum forms in the two languages that was established in Chapter 4: Aorist and Imperfectum forms, which observe temporal properties in Bulgarian, are actually aspectual in Serbian (recall that they observe aspectual restrictions, in contrast to Bulgarian). Thus, Aorist and Imperfectum in the two languages should not receive the same treatment.

Consider the Aorist forms in Serbian for the first conjugation, as given in (46).[137] I argue that, although the surface form might not be indicative of that, all the forms underlyingly contain a

[137] Note that, although I do not discuss the *e*-conjugation and the *i*-conjugation, the same mechanisms apply. The same holds for the Imperfectum forms below.

suffix –x. The left column in (46) illustrates the underlying forms which contains the suffix, while the right column illustrates the surface forms.

(46) Aorist forms in Serbian, first conjugation[138]

a-conjugation *uraditi* 'to do' (pf.)	Underlying form	Surface form
1sg	/uradi + x + m/	[uradi + x]
2sg	/uradi +x + ʃ/	[uradi + ø]
3sg	/uradi + x + ø/	[uradi + ø]
1pl	/uradi + x + mo/	[uradi + s + mo]
2pl	/uradi + x + te/	[uradi +s + te]
3pl	/uradi + x +e/	[uradi + ʃ + e]

The underlying forms in (46) can be analyzed as in (47):

(47) stem + aspect + agreement suffix

As argued in section 4.2.6, the distribution of Aorist in Serbian indicates that it is aspectual in nature. I now propose that the morpheme /x/ is a morphological reflex of the aspectual component of Aorist. Recall from Chapter 4 that Aorist is analyzed as a two-tiered aspectual system, i.e. the lower AspP hosting the viewpoint aspect and the higher AspP hosting Perfect. Under such analysis, /x/ can be argued to be a reflex of the higher AspP which hosts Perfect.

[138] The illustrated Aorist verbs are perfective and Imperfectum verbs are imperfective, since these forms display aspectual restrictions in Serbian. For a detailed discussion, see section 4.2.3.1.

Since Imperfectum is composed in the same manner, i.e. it is composed of two-tiered aspectual layers, this would explain why /x/ also surfaces with the Imperfectum forms (see the discussion below).[139] When /x/ is combined with agreement morphology, various phonological processes take place, obscuring its presence in the structure. Crucially, the same processes also obscure the fact that the agreement suffixes which are observed with the traditional present tense forms (1sg –m, 2sg –š, 3sg –Ø/–e, 1pl –mo, 2pl –te, 3pl –ju/ –e/ –u) are also part of the Aorist forms. Nevertheless, a comparison of underlying and surface Aorist forms indicates that those can systematically be captured if /x/ is present in the structure and if agreement suffixes are almost all the same with traditional present tense forms and Aorist and Imperfectum forms.

Consider again (46), focusing first on the 1pl and 2pl. The agreement suffixes –mo (1pl) / –te (2pl) surface unchanged with these forms. In front these suffixes, we observe –s; this is due to a soft front unrounded vowel /ь/ which was present in this form in Old Church Slavonic, and which caused velar /x/ to palatalize into a sibilant /s/ (the alternation between these two consonants in front of a front vowel /i/ is also productive elsewhere in Serbian, e.g. *ora<u>h</u>* - 'walnut' – *ora<u>s</u>i* 'walnuts'). In 3pl, the agreement marker is /e/, and the velar /x/ palatized into /ʃ/ in front of it (the alternation between these two consonants in front of a front vowel /e/ is also productive elsewhere in Serbian, e.g. *du<u>h</u>* 'ghost (nom)' – *du<u>š</u>e* 'ghost (voc)').

Regarding the singular forms, I suggest that the surface forms can be captured in the following way. With 1sg forms, there is an agreement ending /m/, which cannot surface with /x/ in the coda position; note that there are no grounds to change /x/ into /s/ or /ʃ/, as with 1pl and 2pl forms (/x/ would need to occur in front of a front vowel); plus, this /x+m/ sequence is prohibited in a coda

[139] Regardless of the actual origin of –x, i.e. regardless of whether there is alternatively some kind of feature checking between the lower and the higher AspP, the important point is that –x is not temporal in nature and it is not a reflex of TP, unlike in Bulgarian.

position elsewhere in Serbian. Thus, I propose that in this context, the agreement suffix is deleted, as in (48). Furthermore, I suggest that when /x/ occurs in front a zero suffix, it is deleted, as per (49). This captures the 3sg surface form. Note that the absence of overt inflectional morphology with this form is not strange – cross-linguistically, 3sg is the most likely form to lack overt inflectional morphology. Finally, I suggest that, when both /x/ and /ʃ/ are affixes, they both delete, capturing the 2sg surface form.

(48) m -> Ø / x __ #

(49) x -> Ø / __ Ø

Note also that some infinitives in Serbian end in *–sti or –ći*, and that with those verbs, 2sg and 3sg have the agreement marker –e, as in (50).

(50) Aorist forms in Serbian with an infinitival marker *–ći*

Ispeći 'to bake'	Underlying Form	Surface form
2sg	/ispek + x + e/	[ispetʃe]
3sg	/ispek + x + e/	[ispetʃe]

I propose that these forms also contain the aspectual suffix /x/, which cannot co-occur with a consonant in the stem – the suffix /x/ thus gets deleted (note that the sequence /k+x/ is prohibited elsewhere in Serbian). After the deletion, /k/ changes into /tʃ/ in front of /e/ due to palatalization (the alternation between a velar /k/ and palatal /tʃ/ in front of a front vowel /e/ is productive elsewhere in Serbian, e.g. *junak* 'hero (nom)' – *junače* 'hero (voc)'). Note that /e/ as the

agreement marker also surfaces with 2sg and 3sg Imperfectum forms, as illustrated below, and it is also a productive agreement ending with 3sg present tense forms, e.g. vuč+e 'drag-3sg.pres', again illustrating strong similarity between all agreement markers.

Turning to Imperfectum, I propose that the same component, i.e. suffix /x/, is also present with these forms, as well as a similar set of agreement suffixes. The left column comprises the underlying forms and the right one the surface forms. As with Aorist, the Imperfectum form is decomposed to include the stem, the aspectual morpheme and the agreement morpheme.

(51) Imperfectum forms in Serbian, first conjugation

a-conjugation *orati* 'to plow' (impf.)	Underlying form	Surface form
1sg	/ora+x+m/	[ora+x]
2sg	/ora+x+e/	[ora+ʃ+e]
3sg	/ora+x+e/	[ora+ʃ+e]
1pl	/ora+x+mo/	[ora+s+mo]
2pl	ora+x+e	[ora+s+te]
3pl	ora+x+u	[ora+x+u]

Using the *a*-conjugation as an illustration, consider first the 1pl and 2pl form. We observe the same agreement suffixes that we find with the traditional present tense forms and Aorist, i.e. –mo and –te, respectively. As with the Aorist 1pl form, /x/ surfaces as a sibilant /s/ due to palatalization. With 3pl, /x/ surfaces unchanged, while the agreement marker is –u (this agreement marker also surfaces with certain 3pl morphological present tense forms (cf. (14)).

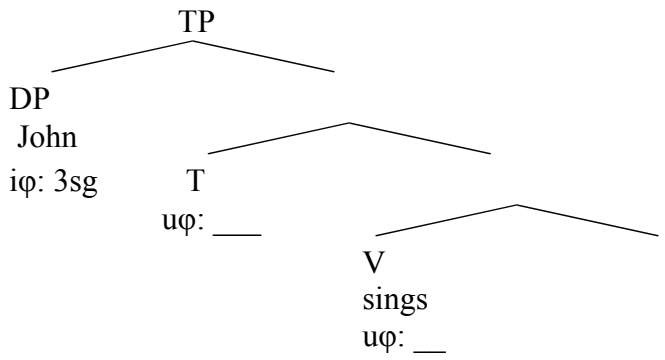
The suffix /x/ also surfaces in 1sg; given the impossibility of co-occurrence of /x/ and /m/ in the coda position, the agreement marker /m/ is not overtly present (cf. rule in (48) for Aorist). In 3sg and 2sg, the agreement ending is –e (see the discussion of Aorist in (50)), in front of which /x/ changes into a sibiliant /ʃ/, due to palatalization.

Two important points are to be made here. First, positing the underlying suffix /x/ in Aorist and Imperfectum forms provides a principled explanation for the surface shape of these forms. Second, although we have observed that Bulgarian and Serbian are similar in terms of Aorist and Imperfectum forms, both being marked with /x/ in these languages, Chapter 4 provided evidence that this is irrelevant for our purposes, since Aorist and Imperfectum are of different nature in the two languages regarding their semantic properties. The relevant diagnostics was based on the aspectual restrictions that are present with Aorist and Imperfectum in Serbian, but not in Bulgarian; I argued that we can explain why these aspectual restrictions arise in Serbian, but not in Bulgarian, if these forms are temporal in nature in Bulgarian, but are aspectualized in Serbian. The differences in terms of semantics of Aorist and Imperfectum in Serbian and Bulgarian, as well as the lack of past interpretation of traditional past participles, call for reconsideration of traditional labels of tense forms. In light of this observation, section 5.5. extends the discussion to Romance languages, with the special focus on Imperfect forms. As it will be shown, the common belief that these forms are restricted to imperfective aspect is not only incorrect for certain languages, but it also fails to account for a range of possible interpretations of these forms.

Before turning to Romance, a reminder is in order regarding the locus of Agreement in Serbian. The currently standard assumption is that, although morphologically reflected on the verb, the φ-features are licensed somewhere else, specifically, on T. In particular, T is assumed

to enter into an Agree relation with the subject, which provides the value for its φ-features, as in (52), for English *John sings*. T can then be further assumed to enter into an Agree relation with V, transmitting the value of the φ-features to V, which is ultimately the locus of its morphological realization. (52) is then one way of implementing agreement.

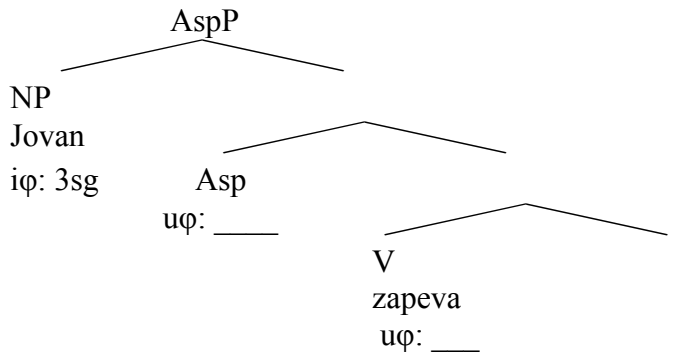
(52)



I now turn to a no-TP language like Serbian. It is important to note here that the φ-features are assumed to be located in T (i.e. this is the head that undergoes agreement in φ-features with the subject) although φ-features are morphologically realized on the verb. There is, however, no strong reason to assume that T has to be the locus of φ-features. One possibility is then that φ-features are licensed by AspP; this can be implemented in the same manner as in (52), by establishing an Agree relation between the Subject and Asp, where the φ-features of Asp get valued and they further value the φ-features on V, as in Serbian example *Jovan zapeva* 'John sang (aor.)' in (53). [140]

[140] There are actually two AspPs with the aorist form in (53), but I am omitting them for ease of exposition.

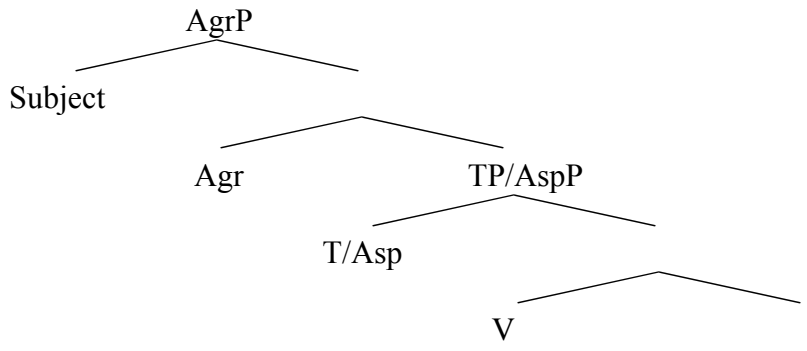
(53)



There is yet another possibility under the split-Infl approach, where AgrP would be independently projected in the structure. If there is TP in the structure, the realization of φ-features could vary with different Tense specifications. This can be implemented by establishing a feature-checking relation between Agr and T. If TP is, however, not present in the structure, AgrP would combine with AspP. In the same manner, Agr and Asp can enter into a feature-checking relation, as in (54). This would ensure that the combination of the value of these features and the φ-features valued by the NP can result in various morphological realizations for agreement inflections.[141] Thus the absence of TP does not pose an obstacle for providing a principled account of the agreement patterns in Serbian.

[141] Recall, however, that the same agreement morphology may in fact be underlyingly present with all traditional "tense" forms in Serbian (though the reader should bear in mind that there are actually two different AspPs that can in principle interact with AgrP).

(54)



5.5 Romance languages

This section discusses the distribution of different verbal forms in Romance, with the focus on Imperfectum. It will be shown that the common belief that these forms are restricted to imperfective aspect is incorrect, failing to account for the full range of interpretations that these forms receive. The following discussion will also further confirm that traditional labels should not be taken for granted, as we have already seen on the example of Slavic languages in Chapter 4 and in this Chapter.

I start the discussion with European Portuguese, since this language was also discussed extensively in Chapter 2 with regards to finiteness mismatches under VP-ellipsis. Note first that European Portuguese has rich verbal morphology, with an array of finite forms receiving different temporal interpretations. In particular, there are five synthetic forms in indicative mood.[142] Present Indicative corresponds to interpretation ongoing at the UT, as in (55).[143] Preterite forms receive interpretations corresponding either to English Past Simple or Present

[142] Some of the tenses observe different agreement morphology in the subjunctive forms.
[143] Present forms may also denote habitual and iterative interpretations.

Perfect, as in (56). Future forms are illustrated in (57). Preterite and Future forms can also be analytic.

(55) Ela escreve a sua dissertação.
she writes the her dissertation
'She is writing her dissertation.'

(56) Ele trabalhava até tarde.
he worked until late
'He worked until late.'

(57) Eu cantarei ao senhor que sua vida doou.
I sing.fut to Lord that his life donated
'I will sing about Lord who donated his life.'

Two additional forms are of interest to us in the current discussion: Imperfect, which is taken to denote habitual interpretation in the past, or to provide past frame for a particular action in the past, as in the first clause in (58) (to be discussed further below), and Pluperfect, as in (59), which is consistent with English Pluperfect interpretations.[144]

[144] Brazilian Portuguese is similar to European Portuguese in terms of temporal morphology. Still, certain differences do arise. In particular, Brazilian Portuguese uses only a periphrastic form for future, as in (i), lacking a synthetic form. European Portuguese uses both forms. In addition, European Portuguese is peculiar in using a synthetic in addition to analytic Pluperfect form, as discussed below. Another difference concerns certain verbal morphology – Brazilian Portuguese lost certain agreement distinctions (Duarte 1995, 1996), which led to the loss of referential null subjects (Tarallo 1983, Duarte 1995, 1996, 2000, Galves 1996, Rodrigez 2002).

(i) Eu já comi, mas a Maria ainda vai comer.
I already ate-1.sg but the Maria still goes eat-inf.
'I've already eaten, but Maria's still going to eat.'

(58) Fazia frio por isso fechei a janela.

Did-IM cold for that closed the window

'It was getting cold, so I closed the window.'

(59) Ela perguntou se alguém lera o jornal.

she asked if anybody read-pluperf. the newspaper

'She asked if anybody had read the newspaper.'

Regarding verbal morphology, Portuguese has both regular and irregular verbs. Focusing on regular verbs, there are three conjugations; infinitives whose suffix is *–ar* are part of the first conjugation (e.g. *lavar* 'to work' *matar* 'to kill'), those whose suffixes is *–er* are part of the second conjugation (e.g. *escreber* 'to write'), and those whose suffixes is *–ir* are part of the third conjugation (*partir* 'to leave'). The table in (60) illustrates the paradigm of the verb *cantar* 'to sing', which belongs to the first conjugation. While the present tense does not have an overt tense marker, it has agreement markers. In addition to agreement markers, Imperfect and Pluperfect forms contain a suffix which is consistent in all the forms, i.e. *–av* in the case of Imperfect, and *–ar* in the case of Pluperfect.

(60) Verbal paradigm of first conjugation in Portuguese

	Present	Imperfect	Pluperfect
1sg	cant-o	cant-av-a	cant-ar-a
2sg	cant-as	cant-av-as	cant-ar-as
3sg	cant-a	cant-av-a	cant-ar-a
1pl	cant-amos	cant-áv-amos	cant-ár-amos
2pl	cant-ais	cant-áv-eis	cant-ár-eis
3pl	cant-am	cant-av-am	cant-ar-am

Regarding Pluperfect, Giorgi and Pianessi (1997) observe that European Portuguese is peculiar since, in addition to a periphrastic form, it also uses a synthetic Pluperfect form which has disappeared from Brazilian Portuguese. Other Romance languages use periphrastic pluperfect form (with the exception of Romanian), which consists of the Imperfect form of the auxiliary *ter* and the past participle. Giorgi and Pianessi also observe that the synthetic form in European Portuguese uses the stem of the Preterite and a particular piece of morphology that is found only with this form. Romanian is similar in that respect because it also uses both synthetic and periphrastic Pluperfect form. The synthetic form is even more productive than in Portuguese and it is used more productively than the periphrastic form in this language. (61) shows that there is a separate piece of morphology in the paradigm of these forms.

(61) Pluperfect forms in Romanian

Pluperfect	
1sg	făcu**se**m
2sg	făcu**se**și
3sg	făcu**se**
1pl	făcu**se**ărăm
2pl	făcu**se**ărăți
3pl	făcu**se**ră

One of the temporal uses of Pluperfect in Romanian is illustrated in (62), where it indicates the anteriority interpretation of the event in the main clause. This can be taken as an indication that Pluperfect morphology in Romanian is the reflex of the presence of Tense. [145]

(62) Când lam întrebat, el văzuse deja filmul.
when him-acc.cl asked he see.pluperf. already movie.the
'When I asked him, he had already seen the movie.'

Regarding the Imperfectum in Portuguese, we can examine the status of this form in light of the previous discussion of Imperfectum in Serbian and Bulgarian, where it was argued that these

[145] One would, however, need to determine whether or not this morphological exponent is dedicated to the Perfect component, which is argued in Chapter 4 to be aspectual in nature. I also argued that Perfect is involved in various temporal interpretations in Serbian, including the anteriority interpretation. However, the situation in Serbian is more complex, since Serbian also relies on perfective and imperfective in deriving temporal interpretations. In particular, only perfective verbs are compatible with the anteriority interpretation in past-under-past contexts. More thus needs to be said about the exact correlation between the meaning of Perfect and anteriority, and whether the same mechanisms are operative cross-linguistically. I leave this issue open for further research.

forms are aspectualized in Serbian, but temporal in Bulgarian. Thus, despite traditionally being labeled the same, their distribution and aspectual specifications indicate that we are not dealing with the same phenomenon. I will now examine the Imperfectum forms in Romance languages from this perspective, taking into account the range of available interpretations. Starting with European Portuguese, and continuing with Spanish, French and Italian, it will be shown that Imperfectum in these languages is not aspectually restricted to imperfective, which indicates that Imperfectum is not aspectual in nature. An aspectual classification would also fail to capture the full range of interpretations that Imperfectum forms display. Rather, I propose that the analysis of these forms as tenses (hence, aspectually unrestricted) covers a wider distribution of Imperfectum and it is thus empirically more adequate.

5.5.1 Imperfectum in Romance languages

Starting with Portuguese, it was noted above that Imperfectum is used for habitual interpretation in the past, or to provide past frame for a particular action in the past, as in the first clause in (58). These are in fact the typical uses of Imperfectum cross-lingistically (see e.g. Rivero and Slavkov 2014), which are compatible with the imperfective aspect. However, this list is not exhaustive. For instance, Imperfectum in Portuguese can also be used to indicate a single precise point in the past, where the time of the action is clearly specified (Sallaberry 2005). Imperfect in Spanish observes the same use (Sallaberry 2000). Such distribution is parallel to the uses of the Preterite in both languages, the form which is typically associated with perfective verbs, and is

parallel to the use of clearly temporal forms cross-linguistically, e.g. English Simple Past. In other words, Imperfectum has a wider array of uses than what would be expected if this form is strictly associated with imperfective aspect, and hence treated strictly as aspectual in nature. Note that such distribution can be contrasted with the uses of Imperfectum in Serbian, where this form cannot refer to a single precise point in the past, but rather denotes ongoingness, which is expected due to Imperfectum being restricted to imperfective in Serbian. On the other hand, in European Portuguese and Spanish such restrictions do not arise.

Consider now French Imparfait, with the paradigm as in (63). With the exception of 1pl and 2pl, the forms contain /ɛ/ as the final suffix. While /ɔ̃/ and /e/ in 1pl and 2pl suffixation can also be found in the present indicative forms, /j/ is found only in the Imparfait forms.

(63) Paradigm of French Imparfait

	parler 'to talk' *(e-conjugation)*	*choisir* 'to choose' *(i-conjugation)*
1sg	parlais /paʁlɛ/	chois-issais /ʃwazisɛ/
2sg	parlais /paʁlɛ/	chois-issais /ʃwazisɛ/
3sg	parlait /paʁlɛ/	chois-issait /ʃwazisɛ/
1pl	parlions /paʁljɔ̃/	chois-issions /ʃwazisjɔ̃/
2pl	parliez /paʁlje/	chois-issiez /ʃwazisje/
3pl	parlaient /paʁlɛ/	chois-issaient /ʃwazisɛ/

Bonami (2002) and Rivero and Slavkov (2014) observe that in French, Imparfait advances the narration. These authors take this property to unify Imparfait (and, more generally, Imperfect in Romance) with Imperfectum in Bulgarian, by postulating an IMPF operator in the viewpoint aspect domain. However, these authors also give Polish as an example where the narration advancement happens with a clearly perfective verb (this is also possible with perfective verbs in Serbian). In other words, this interpretation is not *per se* an indication of imperfectivity.

Furthermore, Bonami (2002:fn 2) notes that narrative reading of Imparfait in French is difficult to distinguish from Passé Simple, which typically occurs with telic verbs. This is illustrated in (64), where Passé Simple is used in the first clause and Imparfait in the second, both advancing the narration and both denoting single events (Imperfectum is also felicitous with single event interpretation in European Portuguese and Spanish, but not in Serbian, as discussed below).[146]

(64) Jean apprit la mort de Marie le 23 octobre.
Jean learn-p.simple the death of Maria the 23 October
Le lendemain, il partait pour Paris.
the next.day he leave-IM for Paris
'Jean found out about Marie's death on October 23. He left for Paris the next day.'

Bonami also provides examples such as (65) and (66) to show that it is not progressive that constitutes the semantic contribution of Imparfait (cf. Jayez 1999). If progressive is taken as aspectual in nature (at least to some extent),[147] this indicates that Imparfait cannot be restricted exclusively to the aspectual component.

(65) Paul dormait.
Paul sleep-IM
'Paul slept.'

[146] The interaction of Imparfait and Passé Simple with the telicity of the predicate is far more complex in French. For relevant discussion, see De Swart (1998, 2000), De Swart and Molendijk (1999), and Bonami (2002), *i.a.* Importantly, De Swart analyzes Imparfait and Passé Simple as tenses which locate the event in the past, while imposing certain selectional restrictions on the predicate, affecting the way they combine with telic and atelic predicates.
[147] See Dowty (1979) and Landman (1982) for a modal component in English progressive.

(66) (Tous les matins,) Paul allait au bureau à pied.

all the mornings Paul go-IM to-the office by foot

'(Every morning) Paul walked to the office.'

Consider now Italian. The relevant paradigm is given in (67). There is a constant piece of morphology in these forms, i.e. a suffix *–av*.

(67) Paradigm of the Imperfect form in Italian

Parlare 'to speak, to talk'	Imperfect
1sg	parlavo
2sg	parlavi
3sg	parlava
1pl	parlavamo
2pl	parlavate
3pl	parlavano

The use of Imperfect in Italian also indicates that this form cannot be restricted to a particular aspect. Giorgi and Pianessi (1997) discuss the usage of Italian Imperfect and observe that this form is anaphoric, i.e. past with respect to UT, and that it requires the temporal argument to be overtly specified (see e.g. Kamp and Rohrer 1983, Bertinetto 1991), as in (68). There is no such requirement for present simple, simple past and future tenses in Italian. Importantly, there is no

such requirement in Serbian Imperfectum, which I argued to be aspectual in nature. While in Serbian, an overt temporal argument is possible, as in (69), it is by no means required, as shown in (70).

(68) Ieri Gianni non <u>sapeva</u> se andare al cinema o no.
yesterday Gianni not know.3sg.IM if go-inf. to.the cinema or not
'Yesterday Gianni did not know whether or not to go to the movie.'

(69) Sanjaše je, u mukama, <u>skoro svaku noć.</u>
dream.3sg.IM she-acc.cl in sufferings almost every night
'He dreamed of her, suffering, almost every night.'
(Crnjanski 1929:85)

(70) Ona ga gledaše svojim lepim, modrim očima.
she he-acc.cl watch.3sg.IM self's beautiful navy eyes
'She looked at him with her beautiful, deep blue eyes.'
(Crnjanski 1929:172)

Giorgi and Pianessi also note that Italian Imperfectum receives continuous interpretation, as shown by the compatibility with *mentre* 'while', which allows only continuous forms, as in (71). They observe that neither the present perfect nor the simple past can occur in these environments.

(71) Mentre Gianni guardava la TV, Maria cucinava.

while Gianni watch.3sg.IM the TV, Maria cook.3sg.IM

'While Gianni was watching the TV, Maria was cooking.'

Crucially, they argue that imperfectivity is not a prerequisite for the continuous reading. Instead, they show that Imperfect is also compatible with achievement predicates, i.e. telic predicates, which they take to always be bounded and thus to be perfective. The example in (72) shows that achievement predicates are compatible with Imperfect morphology. This property is yet another indication that Serbian Imperfectum is different: achievements cannot occur in the same context in Serbian, as shown in (73).

(72) Ieri alle cinque, Gianni raggiungeva la vetta.

yesterday at.the five, Gianni reach.3sg.IM the top

'Yesterday at five, Gianni was reaching the top.'

(73) *Juče u pet, Jovan osvajaše trku.

yesterday in five Jovan win.3sg.IM race

'Yesterday at five, Jovan was winning the race.'

Furthermore, the Imperfect achievement in (72) in Italian is infelicitous in contexts where the culmination is not reached, as shown in (74) and (75). These contexts are typically allowing for imperfectives and are known as imperfective paradox contexts – imperfective verbs are felicitous in past contexts where the event started but was not completed. Given that Imperfect achievements are not felicitous in these contexts, Imperfect achievements are not imperfective.

On the other hand, progressive forms in Italian, as in (76), are felicitous in such contexts. Giorgi and Pianessi take this as an indication that Imperfect forms are not intrinsically specified for imperfective, but are rather aspectually unmarked.

(74) #Ieri Gianni raggiungeva la vetta,
yesterday Gianni reach.3sg.IM the top
quando un violento temporale glielo impedì.
when a violent storm him.dat-it.acc prevent.3sg.pst.
'Yesterday Gianni was reaching the top but then a violent storm prevented him.'

(75) #Mentre Gianni raggiungeva la vetta,
while Gianni reach.3sg.IM the top
un violento temporale gli impedì di arrivarici.
a violent storm him.dat prevent.3sg.pst of arrive.inf-loc.
'While Gianni was reaching the top, a violent storm prevented him from getting there.'

(76) Ieri Gianni stava raggiungendo la vetta,
yesterday Gianni be.Impf.sg reach.PROG the top
quando un violento temporale glielo impedì.
when a violent storm him.dat-it.acc prevent.3sg.pst.
'Yesterday Gianni was reaching the top, but then a violent storm prevented him.'

To sum up, the behavior of Imperfectum in European Portuguese, Spanish, French and Italian indicates that treating this form as purely aspectual, and furthermore, restricting it to

imperfective could not account for the range of its available interpretations. Instead, I propose that an analysis similar to Bulgarian is empirically more adequate, i.e. Imperfectum is a Tense in these languages, contributing past interpretation, hence it is not restricted to a particular aspectual specification. In Bulgarian, I proposed that this can be achieved if temporal component is computed in TP and aspectual in AspP, in principle allowing their co-occurrence. Such a structure can, for instance, capture the interpretation in (72) in Italian, repeated below in (77), where the situation describes a temporal component of the event, without any additional implications. To account for the additional array of interpretations, one can, for instance, posit an additional Habitual Operator in the structures where these interpretations arise, as for instance in (78). Most importantly for our purposes, given the above discussion, the consistent piece of morphology that is present with Imperfectum forms in European Portuguese, Italian and French should be analyzed as a temporal marker, confirming the hypothesis that TP-languages must have overt tense morphology.

(77) Ieri alle cinque, Gianni <u>raggiungeva</u> la vetta.
yesterday at five, Gianni reach.3sg.IM the top
'Yesterday at five, Gianni was reaching the top.'

(78) Ogni venerdi'ci incontravamo al bar.
every Friday meet.3sg.IM at.the bar
'Every Friday, we used to meet at the bar.'

5.6 Temporal morphology in other languages

This section analyzes the remaining languages from Chapter 2 in light of the current proposal where temporal morphology is taken as an indication of the presence of TP. I have already discussed the presence of temporal morphology in Bulgarian and Portuguese, languages that have independently been labeled as TP languages, and the absence thereof in Serbian, Slovenian, Polish and Russian (sections 5.1, 5.2. and 5.3), languages that have independently been labeled as no-TP languages in earlier discussion. In the following sections, it is shown that the remaining TP languages from Chapter 2, Danish, English and Hungarian, also have temporal morphology.

5.6.1 Danish and English

Danish makes use of two synthetic forms to derive present and past interpretations, respectively (in addition to periphrastic Perfect tenses formed by the Auxiliary 'have' ('had' for Pluperfect) and the participle). These forms indeed make use of temporal-dedicated morphology, similar to other Germanic languages. As illustrated in Table in (79) for the verb *rejse* 'to travel', forms receiving present tense interpretation use suffix –(e)r, whereas forms receiving past interpretation use suffix –te. These forms are the same for all persons in singular and plural.[148]

[148] Similar to other Germanic languages, there are two groups of verbs: weak, where a suffix –ede/–te indicates past tense, and strong forms, which, in most instances, display a vowel change in the stem.

(79) Danish verbal paradigm

(at) rejse 'to wait'	Present Tense	Past Tense
1sg/2sg/3sg 1pl/2pl/3pl	rejser	rejste

Danish is in that sense very similar to English, which has an overt temporal marker, i.e. –ed for past tense for the class of regular verbs, which is, according to the diagnostics proposed in the thesis, an indication of the presence of TP. Given the presence of pure-temporal morphology, both English and Danish should, according to the analysis advocated in this Chapter, be grouped with languages that project a TP.

5.6.2 Hungarian

Hungarian has overt temporal markers, as illustrated by the past tense suffix –*t* in (80).

(80)

var 'to wait'	Past Tense
1sg	vartam
2sg	vartal
3sg	vart
1pl	vartunk
2pl	vartatok
3pl	vartak

According to the diagnostics established in this Chapter, the presence of temporal morphology in Hungarian should be taken as an indication of the presence of TP.[149]

5.7 Conclusion

In this Chapter, I argued that the lack of overt temporal morphology indicates the lack of TP. I have shown that this approach to diagnosing the presence/absence of TP fully aligns with the diagnostics from Chapters 2 and 4, which have split languages into TP and no-TP languages based on independent grounds involving ellipsis and temporal/aspectual interaction. The criterion established in this Chapter is further intended to have a predictive power; in other words, to be able to establish the relevant structural configuration for languages that have not been investigated in this thesis.

[149]Present tense is claimed to be phonologically null (Kiss 2002). See Chapter 2 for future interpretations in Hungarian.

This Chapter has also further confirmed the conclusion from Chapter 4 that the traditional classification of verbal forms is often incorrect − the investigation of a number of temporal and aspectual forms in Slavic and Romance languages in Chapters 4 and 5 has shown that the traditional labels of verbal forms are often misleading and should be thoroughly re-examined. Hopefully, the diagnostics used in this dissertation can serve as a starting point for such an endeavor cross-linguistically.

BIBLIOGRAPHY

Abels, Klaus. 2003. Successive cyclicity, anti-locality, and adposition stranding. Doctoral dissertation. University of Connecticut, Storrs.

Abney, Steve. 1987. The English noun phrase in its sentential aspect. Doctoral dissertation, MIT, Cambridge, Mass.

Abusch, Dorit. 1985. On verbs and time. Doctoral dissertation, University of Massachusetts, Amherst.

Abusch, Dorit. 1988. Sequence of tense, intensionality, and scope. In *Proceedings of West Coast Conference on Formal Linguistics 7,* ed. by Hagit Borer, 1−14. Stanford, Calif: CSLI Publications.

Abusch, Dorit. 1997. Sequence of tense and temporal de re. *Linguistics and Philosophy* 20.1: 1−50.

Abusch, Dorit. 2004. On the temporal composition of infinitives. In *The syntax of time*, ed. by Jacqueline Guéron and Jacqueline Lecarme, 27−53. Cambridge, Mass: MIT Press.

Aelbrecht, Lobke. 2010. *The syntactic licensing of ellipsis*. Amsterdam: John Benjamins.

Alexiadou, Artemis, Liliane Haegeman and Melita Stavrou 2007. *Nouns Phrase in the Generative Perspective*. Berlin: Mouton de Gruyter.

Arsenijević, Boban. 2013. Vremensko i aspektualno značenje aorista (The tense and aspect components in the semantics of the /Serbian/aorist), *Srpski jezik* 18: 253–261.

Asarina, Alya. 2006. The Subjunctive and Tense in Russian. Manuscript. Available at: http://web.mit.edu/alya/www/by.pdf

Authier, Marc. 2012. Ellipsis as Movement and Silence: Evidence from French. *University of Pennsylvania Working Papers in Linguistics 18.* Available at: http://repository.upenn.edu/pwpl/vol18/iss1/2

Bailyn, John Frederick. 1995. Underlying phrase structure and 'short' verb movement in Russian. *Journal of Slavic Linguistics* 3.1: 13–58.

Bailyn, John Frederick. 2011. Kak tebe lingvistika? Nenavižu! How (not) to analyze Russian verb-stranding constructions. Paper presented at Formal Approaches to Slavic Linguistics 20, MIT, Cambridge: Mass.

Baker, Mark. 2003. *Lexical categories: Verbs, nouns, and adjectives.* Cambridge: Cambridge University Press.

Baker, Mark. 2008.*The Syntax of Agreement and Concord.* Cambridge: Cambridge University Press.

Bartos, Huba. 2000. VP-ellipsis and verbal affixation in Hungarian. *Acta Linguistica Hungarica* 47: 3−23.

Bastos, Ana. 2001. *Fazer, eu Faço! Topicalização de Constituintes Verbais em Português Brasileiro.* Master's thesis. UNICAMP, São Paulo.

Bennett, Michael. and Barbara Partee 1972. Toward the Logic of Tense and Aspect in English. Indiana University Linguistics Club [Republished in Partee 2004]

Bertinetto Pier Marco. 1991. Il verbo. In *Grande grammatica italiana di consultazione*, ed. by Lorenzo Renzi and Giampaolo Salvi, 13–161. Bologna, il Mulino.

Bittner, Maria. 2005. Future Discourse in a Tenseless Language. *Journal of Semantics* 22.4: 339–388.

Bittner, Maria. 2008. Aspectual universals of temporal anaphora. In *Theoretical and cross-linguistic approaches to the semantics of aspect*, ed. by Susan Rothstein. Amsterdam: John Benjamins.

Bittner, Maria and Ken Hale. 1996. The Structural Determination of Case and Agreement. *Linguistic Inquiry* 27.1: 531–604.

Bjorkman, Bronwyn A. 2011. BE-ing Default: The Morphosyntax of Auxiliaries. Doctoral dissertation, MIT, Cambridge, Mass.

Bobaljik, Jonathan. 1994. What does adjacency do?. In *MIT Working Papers in Linguistics 22: The Morphology-Syntax Connection*, ed. by Heidi Harley and Colin Phillips, 1–32. MITWPL, MIT, Cambridge, Mass.

Bobaljik, Jonathan. 1995. Morphosyntax: The syntax of verbal inflection. Doctoral dissertation. MIT, Cambridge, Mass.

Bobaljik, Jonathan and Susi Wurmbrand. 2005. The domain of agreement. *Natural Language and Linguistic Theory* 23: 809–865.

Bobaljik, Jonathan and Susi Wurmbrand. 2013. Suspension across domains. In *Distributed Morphology Today: Morphemes for Morris Halle,* ed. by O. Matushansky and Alec Marantz.

Boeckx, Cedric. 2009. On the locus of asymmetry in UG. *Catalan Journal of Linguistics* 8: 41–53.

Bohnemeyer, Jürgen. 2002. *The Grammar of Time Reference in Yukatek Maya*. Lincom Europa.

Bohnemeyer, Jürgen and Mary Swift. 2004. Event realization and default aspect. *Linguistics and Philosophy* 27: 263–296.

Bonami, Olivier. 2002. A syntax-semantics interface for tense and aspect in French. In *Proceedings of the 8th HPSG Conference*, ed. by Frank van Eynde, Lars Hellan and Dorothee Beermann, 31–50. Stanford, CA: CSLI Publications.

Borer, Hagit. 2005. *Structuring Sense: The Normal Course of Events* 2. Oxford, UK: Oxford University Press.

Borik, Olga. 2002. *Aspect and Reference Time*. Doctoral dissertation. Utrecht University, Utrecht.

Borik, Olga and Tanya Reinhart. 2004. Telicity and Perfectivity: Two Independent Systems, In *Proceedings of the 8th Symposium on Logic and Language*, ed. by László Hunyadi; György Rákosi & Enikő Tóth, 12–33.

Bošković, Željko. 1994. D-Structure, 0-Criterion, and movement into 0-positions. *Linguistic Analysis* 24: 247–286.

Bošković, Željko. 1997. *The Syntax of Nonfinite Complementation: An Economy Approach*. MIT Press, Cambridge, Mass.

Bošković, Željko. 2005. On the Locality of Left Branch Extraction and the Structure of NP. *Studia Linguistica* 59:1−45.

Bošković, Željko. 2008. What Will You Have, DP or NP? In *Proceedings of the North East Linguistic Society* 37, 101−114. Amherst, MA: GLSA, University of Massachusetts.

Bošković, Željko. 2009. Licensing negative constituents and negative concord. In *Proceedings of the North East Linguistic Society* 38:125−139. Amherst, MA: GLSA, University of Massachusetts.

Bošković, Željko. 2010. Another monster. Talk given at *MayFest 2010: Bridging typology and acquisition*, University of Maryland.

Bošković, Željko. 2012. On NPs and Clauses. In *Discourse and grammar: From sentence types to lexical categories,* ed by G. Grewendorf and T. E. Zimmermann, 179−242.

Bošković, Željko. 2013. Phases beyond clauses. In *Nominal Constructions in Slavic and Beyond,* ed by L. Schürcks, A. Giannakidou, U. Etxeberria, and P. Kosta, 75−128.

Bošković, Željko. 2014. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry*: 27−89.

Bošković, Željko. 2016a. On the typology of the nominal domain: its syntax, semantics and learnability. Talk given at Workshop on Syntax and Semantics of the Nominal Domain. Goethe-Universität Frankfurt, February 4-5, 2016.

Bošković, Željko. 2016b. On argument ellipsis and clitics. Talk given at Ellipsis Across Boarders, Sarajevo, June 20-21, 2016.

Brody, Mihály. 1995. Focus and checking theory, in *Approaches to Hungarian* 5, ed. by István Kenesei, 29–43. Szeged: JATE,

Busquets, Joan and Pascal Denis. 2001. L'Ellipse modale en français: le cas de pouvoir et devoir. *Cahiers de Grammaire*26. 55–74.

Bybee, Joan, Revere Perkins and William Pagliuca. 1994. *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World.* University of Chicago Press.

Cable, Seth. 2013. Beyond the Past, Present and Future: Towards the Semantics of 'Graded Tense' in Gĩkũyũ. *Natural Language Semantics* 21:219–276.

Cecchetto, Carlo and Orin Percus. 2006. When we do that and when we don't: a contrastive analysis of VP ellipsis and VP anaphora. In *Phases of Interpretation*, ed. By Mara Frascarelli, 67–100. Mouton De Gruyter, Berlin.

Chao, Yuan R. 1968. *A Grammar of Spoken Chinese*. University of California Press, Berkeley.

Chao, Wynn. 1988. *On ellipsis*. Garland Publishing, Inc.

Cheng, Hsu-Tee. J. 2013. Argument ellipsis, classifier phrases, and the DP parameter. Doctoral dissertation. University of Connecticut, Storrs.

Cheng, Lisa Lai-Shen, and Rint Sybesma. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30: 509–542.

Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6: 339–405.

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

Chomsky, Noam. 1993. A Minimalist Program for Linguistic Theory. In *The View from Building 20: Essays in Linguistics in Honor of Sylvian Bromberger,* ed. Ken Hale and S.J. Keyser, 1–52. MIT Press, Cambridge, MA.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 1–52. Cambridge, Mass.: MIT Press.

Chung, Sandra. 2006. Sluicing and the lexicon: The point of no return. In *Proceedings of the annual meeting of the Berkeley Linguistics Society 31*, ed. Rebecca T. Cover and Yuni Kim, 73–91. Berkeley, Calif.: Berkeley Linguistics Society.

Chung, Sandra. 2013. Syntactic identity in sluicing: How much, and why. *Linguistic Inquiry* 44:1–44.

Comrie, Bernard. 1976. *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge: Cambridge University Press.

Condoravdi, Cleo. 2002. Temporal Interpretation of Modals: Modals for the Present and the Past. In *The Construction of Meaning*, ed. by David Beaver, Stefan Kaufmann, Brady Clark and Luis Casillas, 59–88. CSLI Publications.

Copley, Bridget. 2002. The semantics of the future. Doctoral dissertation, MIT, Cambridge, MA.

Corver, Norbert. 1992. On Deriving Left Branch Extraction Asymmetries. In *Proceedings of North East Linguistic Society* 22, 67–84. Amherst, MA: GLSA, University of Massachusetts.

Corver, Norbert and Marjo van Koppen. 2010. Ellipsis in Dutch possessive noun phrases: A micro-comparative approach. *Journal of Comparative Germanic Linguistics* 13: 99–140.

Corver, Norbert, and Marjo van Koppen. 2011. NP-ellipsis with adjectival remnants: a micro-comparative perspective. *Natural Language and Linguistic Theory* 29: 371–421.

Cowper, Elizabeth. 1996. The features of tense in English. In Toronto Working Papers in Linguistics 14: 19–40.

Cowper, Elizabeth. 1998. *The simple present in English: a unified treatment*. Studia Linguistica 52: 1–18.

Craenenbroeck, Jereon van and Anikó Lipták. 2006. The crosslinguistic syntax of sluicing: Evidence from Hungarian relatives. *Syntax* 9.3: 248–274.

Craenenbroeck, Jereon van. 2010. *The syntax of ellipsis*: *Evidence from Dutch dialects*. New York: Oxford University Press.

Crnjanski, Miloš. 1929. *Seobe*. Knjižara Gece Kona, Beograd.

Cyrino, Sonia. 1997. *O Objecto Nulo no Português do Brasil – Um Estudo Sintáctico-Diacrônico*. Londrina: Editora UEL.

Cyrino, Sonia. 2004. On the existence of Null Complement Anaphora in Brazilian Portuguese. *Revista Letras,* 63, 97–117.

Cyrino, Sonia and Ruth Lopes. 2012. Null objects as ellipsis. In: Going Romance 2012, Leuven, Belgium.

Cyrino, Sonia and Gabriela Matos. 2002. VP ellipsis in European and Brazilian Portuguese – a comparative analysis. *Journal of Portuguese Linguistics,* 1.2: 177–195. Lisboa: Edições Colibri.

Cyrino, Sonia and Gabriela Matos. 2002. VP ellipsis in European and Brazilian Portuguese – a comparative analysis. *Journal of Portuguese Linguistics,* 1.2: 177–195. Lisboa: Edições Colibri.

Cyrino, Sonia and Gabriela Matos. 2006. Null Complement Anaphora in Romance: deep or surface anaphora. In *Romance Languages and Linguistic Theory* 2004, ed. by J. Doetjes and P. Gonzalez, 95–120. Amsterdam, Philadelphia: John Benjamins.

Cyrino, Sonia and Gabriela Matos. 2005. Local Licensers and Recovering in VP ellipsis. *Journal of Portuguese Linguistics* 4: 79–112.

Cyrino, Sonia and Uli Reich. 2002. Uma visão integrada do objeto nulo no Português Brasileiro. In *Romanistisches Jahrbuch*, 360–386.

Dagnac, Anne. 2010. Modal ellipsis in French, Spanish and Italian: Evidence for a TP-deletion analysis. In *Romance linguistics 2008: Interactions in Romance*, ed. by Karlos Arregi, Zsuzsanna Fagyal, Silvina Montrul and Annie Tremblay, 157–170. Amsterdam: John Benjamins.

Dahl, Östen. 1985. *Tense and Aspect Systems*. Oxford: Blackwell.

Demirdache, Hamida and Myriam Uribe-Etxebarria. 2004. The Syntax of Time Adverbs. In *The syntax of time*, ed. by Jacqueline Guéron and Jacqueline Lecarme, 143–179. MIT Press: Cambridge, Massachusetts.

Depiante, Marcela. 2000. The syntax of deep and surface anaphora: a study of null complement anaphora and stripping/ bare argument ellipsis. Doctoral dissertation. University of Connecticut, Storrs.

De Swart, Henriette.1998. Aspect shift and coercion. *Natural Language and Linguistic Theory* 16: 347–385.

De Swart, Henriette. 2000. Tense, aspect and coercion in a cross-linguistic perspective. In *Proceedings of the Berkeley Formal Grammar conference*, ed. by Miriam Butt and Tracy Holloway King, University of California, Berkeley.

de Swart, Henriette and Molendijk, Arie. 2000. Le passé composé narratif: une analyse discursive de l' étranger de Camus. *Recherches de linguistique française et romane* 19: 45–60.

Despić, Miloje. 2011. *Syntax in the Absence of Determiner Phrase*. Doctoral dissertation, University of Connecticut, Storrs.

Despić, Miloje. 2013. Binding and the Structure of NP in Serbo-Croatian. *Linguistic Inquiry* 44: 239– 270.

Despić, Miloje. 2015. Phases, Reflexives and Definiteness. *Syntax* 18.3: 201–234.

Dikken, Marcel den. 2007. Phase extension: Contours of a theory of the role of head movement in phrasal extraction. *Theoretical Linguistics* 33: 1–41.

Dowty, David. 1979. *Word Meaning and Montague Grammar*. Dordrecht: Kluwer.

Duarte, Inês. 1993. Complementos Infinitivos Preposicionados e outras construções temporalmente defectivas em Português Europeu. In *Actas do VIII Encontro da Associação Portuguesa de linguística*. Lisboa: APL/Colibri.

Duarte, Maria Eugênia Lamoglia. 1995. A perda do princípio "Evite Pronome" no português brasileiro. Doctoral Dissertation. UNICAMP, São Paulo.

Duarte, Maria Eugênia Lamoglia. 1996. Do Pronome Nulo ao Pronome Pleno: a Trajetória do Sujeto no português do Brasil. In *Potuguês Brasileiro. Uma viagem diacrônica*, ed. by Ian Roberts and Mary Kato, 107–125. Campinas: Editora da Universidade Estadual de Campinas.

Duarte, Maria Eugênia Lamoglia. 2000. The Loss of the 'Avoid Pronoun' Principle in Brazilian Portuguese. In *Brazilian Portuguese and the Null Subject Parameter*, ed. by Mary Kato and Esmerlada Negrão, 17–36. Frankfurt: Vervuert.

Dubinsky, Stanley and Mila Tasseva-Kurktchieva. 2014. On the NP/DP languages frontier: Bulgarian as a transitional case. Poster presented at the 89th Annual Meeting of the Linguistic Society of America, Portland, OR.

Enç, Mürvet. 1987. Anchoring Conditions for Tense. *Linguistic Inquiry* 18: 633–657.

Enç, Mürvet. 1991. On the absence of the present tense morpheme in English. Ms., University of Wisconsin, Madison.

Fiengo, Robert and Robert May. 1994. *Indices and identity*. Cambridge, Massachusetts: MIT Press.

Filip, Hana. 2000. The quantization puzzle. In *Events as Grammatical Objects*, ed. by Carol Tenny and James Pustejovsky, 39–96. Stanford, CA: CSLI.

Franks, Steven and Tracy Holloway King. 2000. *A Handbook of Slavic Clitics*. New York: Oxford University Press.

Fukui, Naoki. 1988. Deriving the differences between English and Japanese. *English Linguistics* 5: 249–270.

Gallego, Ángel J. and Juan Uriagereka. 2007. Sub-extraction from subjects: A phase theory account. In *Romance Linguistics 2006*, ed. by José Camacho, Nydia Flores-Ferrán, Liliana Sánchez, Viviane Déprez and María José Cabrera, 149–162. Amsterdam: John Benjamins.

Galves, Charlotte. 1996. O Enfraquecimento da Concordância no Português Brasileiro, in Ian Roberts, and Mary Kato, Português Brasileiro – Uma Viagem Diacrônica. Campinas: Editora da Unicamp, São Paulo.

Gengel, Kirsten. 2009. Phases and Ellipsis. *Linguistic Analysis* 35: 21–42.

Giorgi, Alessandra and Fabio Pianesi. 1997. *Tense and Aspect: From Semantics to Morphosyntax*. Oxford: Oxford University Press.

Givón, Talmy. 1995. *Functionalism and grammar*. John Benjamins Publishing.

Goldberg, Lotus Madelyn. 2005. Verb-Stranding VP Ellipsis: A Cross-Linguistic Study. Doctoral dissertation. McGill University, Montreal.

Gonçalves, Anabela. 1996. Aspectos da Sintaxe dos verbos Auxiliares do Português Europeu. In *Quatro Estudos em Sintaxe do Português*, ed. by Anabela Gonçalves, Madalena Colaço, Matilde Miguel and Telmo Móia, 7–50. Lisboa: Colibri.

Gribanova, Vera. 2013a. Verb-stranding verb phrase ellipsis and the structure of the Russian verbal complex. *Natural Language and Linguistic Theory* 31.1: 91–136.

Gribanova, Vera. 2013b. A new argument for verb-stranding verb phrase ellipsis. *Linguistic Inquiry* 44.1: 145–157.

Grimshaw, Jane. 2005 (1991). Extended projection. In *Words and structure*, 1–74. Stanford: CSLI.

Grohmann, Kleanthes, K. 2003. *Prolific domains: On the anti-locality of movement dependencies*. Amsterdam/Philadelphia: John Benjamins.

Grohmann, Kleanthes K. and Liliane Haegeman. 2003. Resuming Reflexives. In *Proceedings of Scandinavian Conference of Linguistics* 19. *Nordlyd: Tromsø University Working Papers in Language & Linguistics* 31.1: 46–62. Universitetet i Tromsø: Det humanistiske fakultet. Available at: www.ub.uit.no/munin/nordlyd.

Grønn, Atle, and Arnim von Stechow. 2011. The temporal organisation of indicative conditionals. Ms. Tübingen.

Ha, Seungwan. 2008. Contrastive focus: Licensor for Right Node Raising. In *Proceedings of NELS 37*, ed. by Emily Elfner and Martin Walkow, 247– 260. Amherst, Mass.: GLSA, University of Massachusetts.

Hacquard, Valentine. 2006. Aspects of Modality. Doctoral dissertation. MIT, Cambridge, Mass.

Haegeman, Liliane. 2004. DP-periphery and Clausal Periphery: Possessor doubling in West Flemish. In *Peripheries*, ed. by David Adger, Cécile de Cat, and George Tsoulas, 211–240. Kluwer: Dordrecht.

Haegeman, Liliane and Terje Lohndal. 2010. Negative Concord and (Multiple) Agree: A Case Study of West Flemish. *Linguistic Inquiry* 41.2: 181–s211.

Halle, Morris 1959. *The Sound Pattern of Russian*. Mouton, The Hague.

Halle, Morris and Alec Marantz. 1993. Distributed Morphology and the Pieces of Inflection. *The View from Building 20: Essays in Linguistics in Honor of Sylvian Bromberger,* ed. by Ken Hale and Samuel Jay Keyser, 111–176. MIT Press, Cambridge.

Halle, Morris, and Ora Matushansky. 2006. The morpho-phonology of Russian adjectival inflection. *Linguistic Inquiry* 37.3, 351–404.

Halliday, Michael and Ruqaiya Hasan. 1976. *Cohesion in English*. London: Longman.

Halupka-Rešetar, Sabina and Neda Todorović. 2014. Serbian verbs and nouns front to be expressive. *Grazer Linguisticshe Studien 83: Proceedings of Syntax, Phonology and Language Analysis (SinFonIJA 7),* ed. by Remus Gergel and Andreas Blümel, 139–148. Institue für Sprachwissenschaft der Universität Graz, Graz.

Hankamer, Jorge and Ivan Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7, 391–426.

Harley, Matthew. 2008. Tense, aspect, and mood in Tuwuli. In *Aspect and modality in Kwa languages*, ed. by Felix K. Ameka and M.E. Kropp Dakubu, Amsterdam & Philadelphia: John Benjamins Pub. Co.

Hayashi, Midori and Bettina Spreng. 2005. Is Inuktitut tenseless? In *Proceedings of the 2005 Annual Meeting of the Canadian Linguistics Association*.

Heck, Fabian and Gereon Müller. 2003: Derivational optimization of wh-movement. *Linguistic Analysis* 33: 97–148.

Hicks, Glyn. 2009. *The derivation of anaphoric relations*. Amsterdam/Philadelphia: John Benjamins.

Hoffmann, T. Ronald. 1966. Past tense replacement and the modal system. In *Mathematical Linguistics and Automatic Translation*, ed. by A. Cambridge, MA: Harvard University, Harvard Computational Laboratory.

Holmberg, Anders. 2001. The syntax of yes and no in Finnish. *Studia Linguistica* 55:141–175.

Houser, M, L Mikkelsen and M Toosarvandani. 2011. Defective auxiliaries in Danish and English. *Journal of Germanic Ling*uistics 23.3: 199 – 253.

Huddleston, R. 1978. On the Constituent Structure of VP and Aux. *Linguistic Analysis* 4, 31-59.

Iatridou, Sabine, Elena Anagnastopoulou and Roumyana Izvorski. 2001. Observations about the Form and Meaning of the Perfect. In *Perfect Explorations*, ed. by Artemis Alexiadou, M. Rathert, and Arnim von Stechow, 153–204.

Iosad, Pavel. 2012. Vowel reduction in Russian: no phonetics in phonology. *Journal of Linguistics* 48.3: 521–527.

Isačenko, Aleksander. 1960. *Grammatičeskij stroj russkogo jazyka. Morfologija. Častj vtoraja. Vydavatelstvo Slovenskej Akadémie vied*, Bratislava.

Izvorski, Roumyana. 1997. The present perfect as an epistemic modal. In *Proceedings from Semantics and Linguistic Theory* 8. CLC Publications, Cornell University.

Jakobson, Roman. 1948. Russian conjugation. *Word* 4, 155–167.

Jayez, Jacques. 1999. Imperfectivity as progressivity. The French imparfait. *Semantics and Linguistic Theory 9*: 145-162.

Johnson, Kyle. 2001. What VP Ellipsis can do, and what it can't, but not why. In *The Handbook of Contemporary Syntactic Theory*, ed. by Mark Baltin and Chris Collins, 439–479. Oxford: Blackwell Publishers.

Johnson, Kyle. 2004. How to be quiet. In *Proceedings of the Chicago Linguistic Society* 39.

Jung, Hakyung and Krzysztof Migdalski. 2015. On the Degrammaticalization of Pronominal Clitics in Slavic. In Proceedings of *FASL 23*.

Kaisse, Ellen. 1983. The Syntax of auxiliary reduction in English. *Language* 59: 93–122.

Kamp, Hans and Uwe Reyle. 1993. *From Discourse to Logic*. Dordrecht: Kluwer.

Kamp, Hans and Christian Rohrer. 1983. Tense in Texts. In *Meaning, Use and Interpretation of Language*, ed. by Rainer Bäuerle, Christoph Schwarze and Arnim von Stechow, 250–269. Berlin, de Gruyter

Kang, Jungmin. 2014. *On the Absence of TP and Its Consequences: Evidence from Korean*. Doctoral dissertation. University of Connecticut, Storrs.

Kaufmann, Stefan. 2005. Conditional truth and future reference. *Journal of Semantics* 22.3: 231–280.

Kim, Young-Sun. 2006. Deletion as Cliticization and Stress in English VP-Ellipsis Construction. *Studies in Generative Grammar* 16:3: 535–553.
King, Tracy Holloway. 1995. *Configuring topic and focus in Russian*. Stanford: CSLI Publications.

Kiparsky, Paul. 2005. The Vedic injunctive: Historical and synchronic implications. In *The yearbook of south Asian languages and linguistics*, ed. by R. Singh and T. Bhattacharya, 219–235. Berlin: de Gruyter.

Kiss, Katalin. 2002. *Syntax of Hungarian.*Cambridge University Press.

Klajn, Ivan. 2002. Tvorba reči u savremenom srpskom jeziku, prvi deo: slaganje i prefiksacija. Zavod za udzbenike i nastavna sredstva: Institut za srpski jezik SANU, Beograd.

Klein, Wolfgang. 1994. *Time in language*. London and New York: Routledge.

Klein, Wolfgang. 1995. A Time relational analysis of Russian aspect. *Language* 71.4: 669–695.

Klein, Wolfgang, Ping Li and Hemriette Hendriks. 2000. Aspect and assertion in Mandarin Chinese. *Natural Language and Linguistic Theory,* 18.4: 723–770.

Koulidobrova, Elena. To appear. DP or not DP: Acquisitional evidence. *Language Acquisition.*

Kratzer, Angelika. 1998. More Structural Analogies between Pronouns and Tenses. In *Proceedings from Semantics and Linguistic Theory* 8, 92–110.

Krapova, Iliana. 1999. The System of Auxiliaries in Bulgarian. In *Topics in South Slavic Syntax and Semantics*, ed. by Mila Dimitrova-Vulchanova and Lars Hellan, 59–89. Amsterdam: Benjamins.

Landman, F. 1992. The progressive. *Natural Language Semantics* 1:1–32.

Larson, Richard. 1998. On the double object construction. *Linguistic Inquiry* 19: 335-391.

Larson, Richard. 2014. Nominal structure and interpretation. Talk at Linguistic Society of American Annual Meeting Minneapolis MN. January 4, 2014.

Lasnik, Howard. 1981. Restricting the Theory of Transformations. In *Explanation in Linguistics*, ed. by Norbert Hornstein and D. Lightfoot, 152–173. Londman: Longsman

Lasnik, Howard. 1995. Verbal Morphology: *Syntactic Structures* Meets the Minimalist Program. In *Evolution and Revolution in Linguistic Theory: Essays in Honor of Carlos Otero*, ed. by P. Kempchinsky and H. Campos, 251–275. Georgetown University Press.

Lee, Jungmee and Tonhauser, Judith. 2010. Temporal interpretation without tense: Coordination constructions in Korean and Japanese. *Journal of Semantics* 27: 307–341.

Li, Charles N. and Sandra A. Thompson. 1980. Synchrony and Diachrony: The Mandarin Comparative, *Folia Historica Linguistica* I.2: 231-250.

Lin, Jo-Wang. 2003. Selectional Restrictions of Tenses and Temporal Reference of Chinese Bare Sentences. *Lingua* 113: 271–302.

Lin, Jo-Wang. 2006. Time in a Language without Tense: The Case of Chinese. *Journal of Semantics* 23: 1–53.

Lobeck, Anne. 1990. Functional heads as proper governors. In *Proceedings of the 20th North East Linguistic Society*, ed. by Juli Carter, Rose-Marie Dechaine, William Phillip, and Timothy Sherer, 348–362, GLSA, University of Massachusetts, Amherst.

Lobeck, Anne. 1995. *Ellipsis – Functional Heads, Licensing and Identification.* Oxford: Oxford University Press.

Lobeck, Anne. 1999. VP-Ellipsis and the Minimalist Program: Some Speculations and Proposals. In ed. by S. Lappin and E. Benmamoun, 98–123.

Longobardi, Guiseppe. 1994. Reference and proper names. *Linguistic Inquiry* 25: 609–665.

Lopez, Luis 1994. The syntactic licensing of VP-ellipsis: A comparative study of Spanish and English. *Issues and Theory in Romance Linguistics. Selected Papers from LSRL XXIII*, ed. by Michael Mazzola, 333–354. Washington: Georgetown University Press.

Lyons, Christopher. 1999. *Definiteness*. Cambridge: Cambridge University Press.

Marantz, Alec. 2001. Words. In Proceedings of *West Coast Conference on Formal Linguistics, University of South California*. Los Angeles. [http://web.mit.edu/marantz/Public/EALING/WordsWCCFL.pdf]

Marantz, Alec. 2007. Phases and words. In *Phases in the theory of grammar*, ed. by Sook-Hee Choe, 191–222. Seoul: Dong In.

Marelj, Marijana. 2008. Probing the relation between binding and movement: A left branch extraction and pronoun insertion strategy. In *Proceedings of North Eastern Linguistic Society* 37, ed. by Emily Elfner and Martin Walkow, 73–86. Amherst: GLSA, University of Massachusetts.

Marelj, Marijana. 2011. Bound-variable anaphora and left branch condition. *Syntax* 14: 205–229.

Martin, Roger. 1992. On the feature content and distribution of PRO. Ms., University of Connecticut, Storrs.

Matthewson, Lisa. 2005. On the absence of tense on determiners. *Lingua* 115: 1697–1735.

Matthewson, Lisa. 2006. Temporal Semantics in a Superficially Tenseless language. *Linguistics and Philosophy* 29: 673–713.

Matos, Gabriela. 1992. Construções de Elipse do Predicado em Português – SV Nulo e Despojamento. Doctoral dissertation. Lisboa: Universidade de Lisboa.

Matos, Gabriela. 1997. Configurações Sintácticas em Estruturas de Colocação Simultânea de Clítico. In *Sentido que a Vida Faz — Homenagem a Óscar Lopes*, ed. by Ana Maria Brito, Fátima Oliveira, Isabel Pires de Lima and Rosa Maria Martelo, 705–717. Porto: Campo das Letras Editores SA.

Matos, G. 2003. Construções Elípticas. In *Gramática da Língua da Língua Portuguesa*, ed. by Maria Helena Mateus et. al. Lisboa, Caminho.

Melvold, Janis Leanne. 1989. Structure and stress in the phonology of Russian. Doctoral dissertation. MIT, Cambridge, Mass.

Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford University Press: Oxford.

Merchant, Jason. 2008. An asymmetry in voice mismatches in VP-ellipsis and pseudogapping. *Linguistic Inquiry* 39: 169–179.

Merchant, Jason. 2011. Aleut case matters. In *Pragmatics and Autolexical Grammar: In honor of Jerry Sadock,* ed. by Etsuyo Yuasa, Tista Bagchi, Katharine P. Beals, 382–411. Amsterdam: John Benjamins

Merchant, Jason. 2012. Ellipsis. In *Handbook of Contemporary Syntax, 2nd edition*, ed. by Artemis Alexiadou, Tibor Kiss, and Miriam Butt, Walter de Gruyter: Berlin.

Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry* 44: 77–108.

Migdalski, Krzysztof. 2006. The Syntax of Compound Tenses in Slavic. Utrecht: LOT Publications.

Migdalski, Krzysztof. 2013. Diachronic Source of two cliticization patterns in Slavic. In *Challenging Clitics,* ed. by Christine Maklenborg Salvesen and Hans-Peter Helland, 135–158. John Benjamins Publishing.

Milićević, Nataša. 2004. The lexical and superlexical verbal prefix *iz-* and its role in the stacking of prefixes. *Nordlyd* 32: 279–300, University of Tromsø, Tromsø.

Magni, Elisabetta. 2010. Mood and Modality. In *New perspectives on historical Latin syntax II*, 193–275. Berlin/New York: Mouton de Gruyter.

Mauri, Caterine. 2008. *Coordination relations in the languages of Europe and beyond*. Walter de Gruyter.

Mucha, Anne. 2013. Temporal Interpretation in Hausa. *Linguistics and Philosophy* 36: 371–415.

Müller, Gereon. 2011. *Constraints on displacement: A phase-based approach*. John Benjamins.

Neeleman, Ad and Hans van de Koot. 2002. The configurational matrix. *Linguistic Inquiry* 33.4: 529–574.

Nunes, Jairo, and Cynthia Zocca. 2005. Morphological identity in ellipsis. In *Leiden working papers in linguistics* 2.2: 29–42. Leiden: Leiden University

Nunes, Jairo, and Cynthia Zocca. 2009. Lack of Morphological Identity and Ellipsis Resolution in Brazilian Portuguese. In *Minimalist essays on Brazilian Portuguese syntax*, ed. Jairo Nunes, 215–236. Amsterdam: John Benjamins.

Ogihara, Toshiyuki. 2007. Tense and Aspect in Truth-conditional Semantics. *Lingua* 117.2:

392–418.

Paunović, Željka. 2001. Aspectual-temporal relations in Serbo-Croatian verbal morphology. Essex Graduate Student Papers in Language and Linguistics, v.III

Oku, Satoshi. 1998. A theory of selection and reconstruction in the minimalist perspective. Doctoral dissertation, University of Connecticut, Storrs.

Ormazabal, Javier. 1991. Asymmetries in wh-movement and specific DPs. Doctoral dissertation. University of Connecticut.

Ørsnes, Bjarne. 2011. Non-finite *do*-support in Danish. In: *Empirical Issues in Syntax and Semantics* 8, ed. By Olivier Bonami and Patricia Cabredo Hofherr, 409–434.

Palffy-Muhoray, Nicole. 2013. Future Reference in Hungarian with and without Future Marking. *University of Pennsylvania Working Papers in Linguistics* 19.
Available at: http://repository.upenn.edu/pwpl/vol19/iss1/17

Palmer, Frank R. 2001. *Mood and Modality*. Cambridge: Cambridge University Press.

Pancheva, Roumyana. 2003. The Aspectual Makeup of Perfect Participles and the Interpretations of the Perfect. In *Perfect Explorations*, ed. by Artemis Alexiadou, M. Rathert, and Arnim von Stechow, 277–306. Mouton de Gruyter.

Pancheva, Roumyana and Arnim von Stechow. 2004. On the Present Perfect Puzzle. In *Proceedings of NELS 34*, ed. by Keir Moulton and Matthew Wolf .

Pancheva, Roumyana and Barbara Tomaszewicz. 2012. Cross-linguistic Differences in Superlative Movement out of Nominal Phrases. In *Proceedings of the 30th West Coast Conference on Formal Linguistics*. Cascadilla Proceedings Project.

Pancheva, Roumyana. 2013. Cross-linguistic Variation in the Perfect from the Perspective of the PTS Theory. Paper presented at TbiLLC Aspect Workshop, Gaudari, Georgia, September 24, 2013.

Pesetsky, David and Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In *Phrasal and Clausal Architecture: Syntactic derivation and interpretation*: *In honor of Joseph E. Emonds*, ed. by Simin Karimi, Vida Samiian and Wendy Wilkins, 262–294. Amsterdam: John Benjamins.

Pitsch, Hagen. 2015. Finiteness, Operators and Auxiliaries in North Slavic. *Linguistische Beric*hte 241: 49–79.

Platzack, C. 2012. Cross Germanic variation in the realm of support verbs. In *Comparative Germanic syntax: the state of the art*, ed. by Peter Ackema, Rhona Alcorn, Caroline Heycock, Dany Jaspers, Jereon van Craenenbroeck and Guido Vanden Wyngaerd, 279–309. John Benjamins.

Potsdam, Eric. 1997. English Verbal Morphology and VP Ellipsis. In *The Proceedings of the 27th Meeting of the North East Linguistic Society*, 353–368. Amherst, Ma.: GLSA, University of Massachusetts at Amherst.

Progovac, Ljiljana. 2006. The Syntax of Non-sententials: Small Clauses and Phrases at Root. In *The Syntax of non-sententials: multidisciplinary perspectives,* ed. by Ljiljana Progovac, Kate Paesani, Eugenia Casielles and Ellen Barton, 33–71. Amsterdam: John Benjamins.

Puskás, Genoveva. 2000. *Word Order in Hungarian: the Syntax of A'-positions*. Amsterdam & Philadelphia: John Benjamins.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik.. 1972. *A Grammar of Contemporary English*. London: Longman Press.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. *A Comprehensive Grammar of Contemporary English*. London: Longman. Press.

Ramchand, Gillian. 1993. Verbal Nouns and Event Structure in Scottish Gaelic. In *Proceedings of Semantics and Linguistic Theory* 3, ed. by Utpal Lahiri and Adam Wyner, 162–181. Ithaca, New York: Cornell University, CLC Publications.

Ramchand, Gillian. 2004. Time and the event: the semantics of Russian prefixes. *Nordlyd* 32: 323–361, University of Tromsø, Tromsø.

Raposo, Eduardo. 1989. Prepositional Infinitival Construction in European Portuguese. In *The Null Subject Parameter*, ed. by Osvaldo Jaeggli and Ken Safir. Dordrecht: Kluwer.

Reichenbach, Hans. 1947. *Elements of Symbolic Logic*. New York: Macmillan.

Riđanović, Midhat. 2012. *Bosnian for Foreigners – with a comprehensive grammar*. Rabic: Sarajevo.

Ritter, Elizabeth and Martina Wiltschko. 2014. The composition of INFL. An exploration of tense, tenseless languages, and tenseless constructions. *Natural Language and Linguistic Theory* 32:1331–1386.

Rivero, María Luisa. 1991. Long Head Movement and Negation: Serbo-Croatian vs. Slovak and Czech. *The Linguistic Review* 8: 319–351.

Rivero, María Luisa. 1994. Clause Structure and V-movement in the Languages of theBalkans. *Natural Language and Linguistic Theory* 12:63–120.

Rivero, María Luisa. 2005. Topics in Bulgarian morphology and syntax: a minimalist perspective. *Lingua* 115: 1083–1128.

Rivero, María Luisa and Nikolay Slavkov 2014. Imperfect(ive) variation: the case of Bulgarian. *Lingua:* 232–277.

Rodrigez, Cilene. 2002. Morphology and Null Subjects in Brazilian Portuguese. In *Syntactic effects of morphological change*, ed. David A. Lightfoot. 160–178. Oxford: OUP.

Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75-116.

Ross, J. R. 1969. Auxiliaries as Main Verbs. In *Studies in Philosophical Linguistics*, edited by Willian Todd, 77–102. Ewanstown: Great Expectations Press.

Rouveret, Alain. 2012. VP ellipsis, phases and the syntax of morphology. *Natural Language and Linguistic Theory* 30: 897–963.

Runić, Jelena. 2012. A new looks at clitics: Evidence from Slavic. In *Proceedings of Formal Approaches to Slavic Linguistics* 21: 275–288. Ann Arbor: Michigan Slavic Publications.

Runić, Jelena. 2014a. A new look at clitics, clitic doubling, and argument ellipsis. Doctoral dissertation. University of Connecticut.

Runić, Jelena. 2014b. A new look at argument ellipsis: Evidence from Slavic. In *Proceedings of NELS 43.*

Saez, Luis. 1989/90. Antecedent-contained deletion and modals in Spanish comparative constructions. *The Linguistic Review*: 195–225.

Sag, Ivan. 1976. Deletion and Logical Form. Doctoral dissertation, MIT, Cambridge, Mass.

Sailor, Craig. 2009. Tagged for Deletion: A Typological Approach to VP Ellipsis in Tag Questions. Master's thesis. UCLA, Los Angeles.

Saito, Mamoru 2001. Genitive subjects in Japanese: Implications for the theory of null objects. Paper presented at International Symposium on Non-Nominative Subjects. Institute for the Study of Languages and Cultures of Asia and Africa. Tokyo University of Foreign Studies, December 2001.

Saito, Mamoru. 2004. Ellipsis and pronominal reference in Japanese clefts. *Nanzan Linguistics* 1: 21–50. Nagoya: Center for Linguistics, Nanzan University.

Saito, Mamoru. 2007. Notes on East Asian argument ellipsis. *Language Research* 43:203–227.

Saito Mamoru and Keiko Murasugi. 1990. N'-deletion in Japanese: A Preliminary Study. In *Japanese/Korean Linguistics* 1: 285–301.

Salaberry, Rafael. 2000. *The development of past tense morphology in L2 Spanish*. Amsterdam: Benjamins.

Salaberry, Rafael. 2005. Evidence for transfer of knowledge about aspect from L2 Spanish to L3 Portuguese. In *Tense and aspect in the Romance languages: theoretical and applied perspectives* ed. by Dalila Ayoun and Rafael Salaberry, 179–210. Amsterdam: John Benjamins.

Santos, Ana Lúcia. 2009. *Minimal answers: ellipsis, syntax and discourse in the acquisition of European Portuguese.* John Benjamins, Amsterdam.

Sawada, Tsuyoshi. 2015. Pleonastic Merger. Doctoral dissertation. University of Connecticut, Storrs.

Scatton, Ernest A. 1984. *A Reference grammar of modern Bulgarian*. Cambridge, Mass.: Slavica Publishers.

Shaer, Benjamin. 2003. Toward the Tenseless Analysis of Tenseless Language. In *The Proceedings of SULA 2,* ed. by Jan Anderssen, Paula Menendez- Benito and Adam Werle, 139–156. Amherst: UMass.

Sharvit, Yael. 2003. Trying to be Progressive: the Extensionality of Try. *Journal of Semantics 20*: 403–445.

Shen, Zheng. 2014. Locality and the superlative conspiracy. Ms., University of Connecticut.

Shinohara, Matsunaka. 2006. On some differences between the major deletion phenomena and Japanese argument ellipsis. Ms., Nanzan University.

Smith, Carlota. 1991. *The Parameter of Aspect*. Kluwer. Dordrecht.

Smith, Carlota and Mary S. Erbaugh. 2005. Temporal interpretation in Mandarin Chinese. *Linguistics* 42: 713–756.

Snyder, William. 2007. *Child Language: The Parametric Approach.* Oxford, UK: OUP.

Stanojčić, Živorad and Ljubomir Popović. 1992. *Gramatika sprskog jezika*. Zavod za udžbenike i nastavna sredstva. Beograd.

Stechow, Arnim von. 2002. German *Seit* 'Since' and the Ambiguity of the German Perfect. In *More than Words: A Festschrift for Dieter Wunderlich,* ed. by Barbara Stiebels and Ingrid Kaufmann, 393–432. Berlin: Akademie Verlag.

Stechow, Arnim von. 2003. Feature Deletion under Semantic Binding: Tense, Person and Mood under Verbal Quantifiers. In *Proceedings of the North Eastern Linguistics Society Annual Meeting* 33, ed. by Makoto Kadowaki and Shigeto Kawahara, 397–403. Amherst: GLSA.

Stechow, Arnim von. 2004. Binding by Verbs: Tense, Person and Mood under Attitudes. In *The Syntax and Semantics of the Left Periphery*, ed. by Horst Lohnstein and Susanne Trissler, 431– 488. Berlin, New York: Mouton de Gruyter.

Stechow, Arnim von. 2005. Temporal orientation of modals and attitudes (and covert temporal operators). Lecture notes Tübingen, Cornell. Available at: http://www.sfs.unituebingen.de/~astechow/Handouts/Cornell_April4.05.pdf.

Stechow, Arnim von. 2009. Tenses in Compositional Semantics. In *The Expression of Time in Language*, ed. by Wolfgang Klein, and Ping Li, 129–166. Berlin: Mouton De Gruyter.

Stjepanović, Sandra. 1997. VP Ellipsis in a Verb Raising Language and Implications for the Condition on Formal Identity of Verbs. In *'Is the Logic Clear?':Papers in Honor of Howard Lasnik*, University of Connecticut Working Papers in Linguistics 8, ed. by Jeong-Seok Kim, Satoshi Oku and Sandra Stjepanović, 287–306.

Stjepanović, Sandra. 1999. What do second-position cliticization, scrambling and multiple wh-fronting have in common? Doctoral dissertation, University of Connecticut, Storrs.

Surányi, Balázs. 2009. Preverbs, chain reduction, and phases. In *Approaches to Hungarian* 11, ed. by Marcel den Dikken and Robert Vago, 217–250. John Benjamins, Amsterdam.

Sugawa, Seichi. 2008. Ellipsis and repair effects. *Nanzan Linguistics*: *Special Issue* 3: 165-183. Nagoya: Center for Linguistics, Nanzan University.

Svenonius, Peter. 2004. Slavic prefixes inside and outside VP. *Nordlyd* 32*:* 205–253. University of Tromsø, Tromsø.

Swift, Mary. 2005. Time in child Inuktitut: *A developmental study of an Eskimo-Aleut language*. Berlin: Mouton de Gruyter.

Şener, Serkan and Daiko Takahashi. 2010. Ellipsis of argument in Japanese and Turkish. *Nanzan Linguistics* 6: 79–99.

Takahashi, Daiko. 2008a. Noun phrase ellipsis. In *The Oxford Handbook of Japanese Linguistics*, ed. by Shigeru Miyagawa and Mamoro Saito, 394–422. New York: Oxford University Press.

Takahashi, Daiko. 2008b. Quantificational null objects and argument ellipsis. *Linguistic Inquiry* 39: 307–326.

Takahashi, Daiko. 2010. Argument Ellipsis, Anti-Agreement, and Scrambling. Ms., Tohoku University, Sendai.

Takahashi, Masahiko. 2010. Case, phases, and nominative/accusative conversion in Japanese. *Journal of East Asian Linguistics* 19: 319–355.

Takahashi, Masahiko. 2011. Some consequences of Case-marking in Japanese. Doctoral dissertation, University of Connecticut, Storrs.

Takahashi, Masahiko. 2012. Phases and the Structure of NP: A comparative study of Japanese and Serbo-Croatian. In *Proceedings of Formal Approaches to Slavic Linguistics* 21: 359-372. Ann Arbor: Michigan Slavic Publications.

Tanaka, Hidekazu. 2011. Syntactic identity and ellipsis. *The Linguistic Review* 28.1: 79–110.

Tancredi, Christopher. 1992. Deletion, de-accenting and presupposition. Doctoral Dissertation. MIT, Cambridge, Mass.

Talić, Aida. 2013. Extraordinary complement extraction: PP-complements and Inherently case-marked nominal complements. *Studies in Polish Linguistics* 8.3: 127–150.

Talić, Aida. 2015. Adverb extraction, specificity and structural parallelism. *Canadian Journal of Linguistics* 60.3: 417–454.

Tarallo, Fernando. 1983. Relativization Strategies in Brazilian Portuguese. Doctoral dissertation. University of Pennsylvania, Philadelphia.

Taylor, Barry. 1977. Tense and continuity. *Linguistics and Philosophy* 1: 199–220.

Thoms, Gary. 2014. MaxElide and clause structure in Scottish Gaelic. *Linguistic Inquiry* 45:158– 168.

Todorović, Neda. 2013. On the distribution of perfective aspect in Serbian. In Proceedings of *Formal Approaches to Slavic Linguistics* 21, ed. by Steven Franks, Markus Dickinson, Gorge Fowler, Melissa Witcombe, and Ksenia Zanon, 373–387. Ann Arbor: Michigan Slavic Publications.

Todorović, Neda. 2014a. VP-ellipsis and all its phases: The role of aspect in VP-ellipsis in Serbian. In *Proceeding of Formal Approaches to Slavic Linguistics 22*. Michigan Slavic Materials, Ann Arbor, Michigan.

Todorović, Neda. 2014b. Role of Aspect in VP-ellipsis in Serbian: phase-governed approach. In *Proceedings of Penn Linguistics Colloquium 37*. University of Pennsylvania, Philadelphia, Pennsylvania. Available at: http://repository.upenn.edu/pwpl/vol20/iss1/

Todorović, Neda. 2015a. (Im)perfect(ive) VP: Aspect-sensitive VP-ellipsis in Serbian. In Proceedings of *Chicago Linguistics Society* 49: 347–362. Chicago Linguistic Society, Chicago, Illinois.

Todorović, Neda. 2015b. Tense and Aspect (in)compatibility in Serbian matrix and embedded clauses. *Lingua* 167: 82–111.

Todorović, Neda. 2015c. Restrictions on future interpretations of perfective in Serbian (and beyond). Talk given at Workshop on Aspect. Cornell University, Ithaca, New York, October 3-4, 2015.

Todorović, Neda and Wurmbrand, Susi. 2015. (In)Finite possibilities of 'da' Restructuring the tense and aspect domains. Paper Presented at Aspect in Embedded Clauses Workshop, ZAS, Berlin, May 11-12, 2015.

Todorović, Neda and Wurmbrand, Susi. To appear. Finiteness across domain. In *Current Developments in Slavic Linguistics: Twenty Years After,* ed. by Peter Kosta and Teodora Radeva-Bork. Peter Lang, Frankfurt am Main, Germany.

Tonhauser, Judith. 2006. The temporal semantics of Noun Phrases: Evidence from Guaraní. Doctoral dissertation. Stanford University, Stanford.

Tonhauser, Judith. 2009. Counterfactuality and future time reference: The case of Paraguayan Guaraní mo'ã. In *Proceedings of Sinn und Bedeutung* 13: 527–541, ed. by Arndt Riester and Torgrim Solstad.

Tonhauser, Judith. 2011. Temporal Reference in Paraguayan Guaraní. *Linguistics and Philosophy* 34: 257– 303.

Toosarvandani, Maziar. 2009. Ellipsis in Farsi complex predicates. *Syntax* 12: 60–92.

Travis, Lisa. 2010. *Inner Aspect: the articulation of VP*. Dordrecht: Springer.

Trenkić, Danijela. 2004. Definiteness in Serbian/Croatian/Bosnian and Some Implications for the General Structure of the Nominal Phrase. *Lingua* 114:1 401–1427.

Vaillant, André. 1966: Grammaire comparée des langues slaves. 111: Le verbe. Paris.

Vicente, Luis. 2006. Negative short replies in Spanish. In *Linguistics in the netherlands 2006*, ed. Jeroen van de Weijer and Los, 199–211. John Benjamins.

Vikner, Sten. 1995. *Verb movement and expletive subjects in the Germanic languages*. Oxford: Oxford University Press.

Vitas, Duško and Miloš Utvić. 2013. Corpus of Contemporary Serbian (version SrpKor2013) Human Language Technologies Group, University of Belgrade (http://www.korpus.matf.bg.ac.rs).

Vrzić, Zvjezdana. 1996. Categorial status of the Serbo-Croatian "modal" da. In *Annual Workshop on Formal Approaches to Slavic Linguisircs: The college Park Meeting 1994,* ed. by Jindřich Toman, 291–312. Ann Arbor, MI: Michigan Slavic Publications.

Warner, Anthony. 1985. *The structure of English auxiliaries: A phrase structure grammar*. Bloomington, Indiana: Indiana University Linguistics Club.

Warner, Anthony. 1986. Ellipsis Conditions and the Status of the English Copula. In *York Papers in Linguistics*, 153–172.

Wasow, Thomas. 1972. Anaphoric relations in English. Doctoral Dissertation, MIT, Cambridge, Massachusetts.

Williams, Edwin. 1977. Discourse and logical form. *Linguistic Inquiry* 8: 101–139.

Willim, Ewa. 2000. On the grammar of Polish nominals. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 319–346. Cambridge, Mass.: MIT Press.

Wiltschko, Martina. 2003. On the Interpretability of Tense on D and its Consequences for Case Theory. *Lingua* 113: 659–696.

World Atlas of Language Structures. Available at: http://wals.info/

Wurmbrand, Susi. 2012. The syntax of valuation in auxiliary–participle constructions. In *Coyote Working Papers: Proceedings of the 29th West Coast Conference on Formal Linguistics*, ed. by Jaehoon Choi et al., 154–162. University of Arizona, Tucson.

Wurmbrand, Susi. 2013. QR and selection: Covert evidence for phasehood. In *Proceedings of the North Eastern Linguistics Society Annual Meeting 42:* 277–290*,* ed. by S. Keine and S. Sloggett. Amherst: University of Massachusetts, GLSA.

Wurmbrand, Susi. 2014. Tense and aspect in English infinitives. *Linguistic Inquiry* 45.3: 403–447.

Zanon, Ksenia. 2014. On the Status of TP in Turkish. *Studies in Polish Linguistics* 9: 163 –201.

Zeijlstra, Hedde. 2012. There is only one way to agree. *The Linguistic Review* 29: 491–53.

Zlatić, Larisa. 1997. *The Structure of Serbian Noun Phrase*. Doctoral dissertation, University of Texas, Austin.

Zlatić, Larisa. 1998. Slavic Noun Phrases are NPs, not DPs. Paper presented at the Comparative Slavic Morphosyntax Workshop, Bloomington, Indiana, June 1998.

Zocca, Cynthia. 2003. *O que não está lá? Um estudo sobre morfologia flexional em elipses*. Master's thesis. UNICAMP, São Paulo.

Zribi-Hertz, Anne. 1986. Relations anaphoriques en français: esquisse d'une grammaire générative raisonnée de la réflexivité et de l'ellipse structurale. Doctoral dissertation, Université Paris 8, Paris.

Zucchi, Alessandro. 1999. Incomplete Events, Intensionality and Imperfective Aspect. *Natural Language Semantics* 7.2: 179–215.