L2 acquisition of Russian aspect

by

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Abstract

As reported in the pedagogical literature, second language (L2) acquisition of Russian aspect is often unsuccessful. The goal of this dissertation is to investigate what components of Russian aspect L2 learners with English as a first language (L1) are able or unable to acquire and to establish whether English speakers learning Russian can acquire native-like competence with respect to the morphosyntax of Russian aspect. These issues are examined in the framework of the Interface Hypothesis (Sorace & Filiaci 2006), which predicts that L2 learners of Russian should be able to successfully acquire morphosyntactic structure related to aspect.

In the theoretical part of this dissertation, I develop a detailed syntactic analysis of English and Russian aspect. In line with previous research, I postulate two aspectual projections: the *v*P-internal *inner* aspect projection (Asp_QP), which encodes *telicity*, and the *v*P-external *outer* aspect projection (AspP), which encodes *unboundedness*. The main difference between English and Russian Asp_QP is that in English this projection is licensed indirectly (by the nominal predicate in the [Spec, Asp_QP]), while in Russian it is licensed directly (by a verbal morpheme that merges directly onto the $Asp_Q°$). The main difference concerning AspP is that in English this projection is licensed by the phonologically overt morpheme *-ing*, while in Russian it is licensed either by the phonologically overt morpheme *-va* (which attaches to telic stems) or by the Ø-morpheme (which attaches to atelic stems). Another difference between English and Russian is that they shift the interpretation of the present tense forms of 'simple' non-stative verbs in two different ways. In English these verbs receive a habitual interpretation, and, in Russian, a future tense interpretation.

In order to reach full mastery of Russian aspect, English learners must acquire, among other things, the morphosyntactic properties, which are different from English. In the experimental part of this dissertation, I report on two studies that tested the acquisition of aspect. Experiment 1 tested the performance of 41 L2 learners, at different proficiency levels, and 10 Russian controls using a truth value judgment task. In Experiment 2, 40 L2 learners and 10 Russian controls were tested on a grammaticality judgment task. The results reveal that near-native speakers behave indistinguishably from Russian native

speakers, as do advanced subjects in a number of respects, supporting the claim of the Interface Hypothesis that syntax is spared from persistent non-convergence in L2 acquisition. Additional results show that while purely morphosyntactic properties of Russian aspect are acquirable without any apparent difficulties, L2 learners experience difficulties with aspectual properties that involve the lexicon-syntax and syntax-pragmatics interfaces. These findings support the claim of the Interface Hypothesis that these two interfaces remain 'problematic' for L2 learners.

Résumé

Selon la littérature pédagogique, l'acquisition de l'aspect en russe comme langue seconde (L2) reste souvent sans succès. Le but de cette dissertation est d'explorer quels sont les composantes de l'aspect en russe que les apprenants de langue maternelle anglaise (L1) sont ou non capables d'acquérir, et d'établir si les locuteurs de langue anglaise qui apprennent le russe peuvent acquérir les aspects morpho-syntaxiques de l'aspect en russe avec une compétence comparable à celle des locuteurs natifs. Ces questions sont examinées dans le cadre de l'Hypothèse d'Interface (Sorace & Filiaci 2006), qui prédit que les apprenants du russe comme langue seconde devraient pouvoir acquérir avec succès la structure morphosyntaxique de l'aspect.

Dans la partie théorique de la dissertation, je présente une analyse syntaxique détaillée de l'aspect en anglais et en russe. En accord avec des recherches antérieures, je postule deux projections aspectuelles : la projection de l'aspect *interne* du *v*P-intérieur (Asp_QP), qui encode la télicité, et la projection de l'aspect *externe* du *v*P-extérieur (AspP), qui encode la non-bornitude. La différence principale entre l'Asp_QP anglais et russe est que en anglais cette projection est licenciée indirectement (par le prédicat nominal dans le [Spec, Asp_QP]), tandis qu'en russe il est licencié directement (par un morphème verbal qui est fusionné avec l'$Asp_Q°$). La différence principale concernant AspP est qu'en anglais cette projection est licenciée par le morphème phonologiquement manifeste *-ing*, tandis qu'en russe elle est licenciée, soit par le morphème phonologiquement manifeste *-va* (qui s'attache aux racines téliques), soit par le morphème Ø (qui s'attache aux racines atéliques). Une autre différence entre l'anglais et le russe est qu'ils transmettent l'interprétation des formes du présent des verbes non-statifs 'simples' de manières différentes. En anglais, ces verbes reçoivent une interprétation habituelle, et en russe, une interprétation de futur.

De manière à atteindre la maîtrise totale de l'aspect en russe, les apprenants anglais doivent acquérir, entre autres, les propriétés morphosyntaxiques, lesquelles diffèrent de l'anglais. Dans la partie expérimentale de la dissertation, je présente deux études qui ont testé l'acquisition de l'aspect. La première expérience teste, à l'aide d'une tâche de jugement de vérité, la performance de 41 apprenants de la L2 à des niveaux de maîtrise

différents et 10 sujets témoins russes. Dans la seconde expérience, 40 apprenants de la L2 et 10 sujets témoins russes ont été testés à l'aide d'une tâche de jugement de grammaticalité. Les résultats révèlent que les locuteurs quasi-natifs se comportent indistinctement des locuteurs natifs du russe, de même que, sur un nombre d'éléments, les sujets avancés, en accord avec la prédiction de l'Hypothèse d'Interface selon laquelle la syntaxe est à l'abri d'une non-convergence persistante dans l'acquisition d'une L2. Des résultats supplémentaires montrent que, tandis que les propriétés purement morphosyntaxtiques de l'aspect en russe peuvent être acquises sans difficultés apparentes, les apprenants de L2 ont de la difficulté avec les propriétés aspectuelles qui impliquent les interfaces lexique-syntaxe et syntaxe-pragmatique. Ces résultats sont conformes à la prédiction de l'Hypothèse d'Interface selon laquelle ces deux interfaces demeurent 'problématiques' pour les apprenants d'une L2.

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Table of Contents

Abstract....ii
Acknowledgments....vi

Chapter 1: Introduction.... 1
1.1. Previous research on ultimate attainment of aspect in L2 Russian.... 5
1.2. A look ahead.... 8

Part 1: Theoretical analysis of English and Russian aspect

Chapter 2: Theoretical analysis of English inner aspect.... 10
2.1. Inner aspect.... 10
2.2. Background research.... 11
2.2.1. Vendlerian classification of verbal predicates.... 11
2.2.2. Semantic analyses of Vendlerian classes.... 12
2.2.3. Syntactic analysis of Vendlerian classes.... 17
2.2.3.1. Dynamic vs. non-dynamic predicates.... 19
2.2.3.2. Telic vs. atelic predicates.... 21
2.2.3.2.1. Telicity diagnostics.... 21
2.2.3.2.2. Defining telicity.... 26
2.3. Calculating telicity in English.... 32
2.4. The phrase structure of English aktionsart.... 46
2.4.1. States.... 46
2.4.2. Achievements.... 47
2.4.3. Activities.... 49
2.4.4. Accomplishments.... 50
2.5. Concluding remarks: English inner aspect.... 52

Chapter 3: Theoretical analysis of English outer aspect.... 54
3.1. (A)telicity versus (un)boundedness.... 57
3.2. 'Bounded' or delimited (in time) events.... 59
3.2.1. Telic events.... 60
3.2.2. Non-telic events.... 62
3.2.2.1. Durative adverbials and phase verbs as delimiters.... 63
3.2.2.2. Past tense as delimiter.... 66
3.3. Unlimited (in time) events.... 69
3.3.1. Atelic events.... 69
3.3.2. Unbounded events.... 70
3.3.2.1. Single event reading of syntactically unbounded events.... 70
3.3.2.2. Habitual reading of syntactically unbounded events.... 77
3.4. Interaction between present tense and non-stative events.... 79
3.5. Concluding remarks: English aspectual system.... 81

3.5.1. Non-dynamic verbal predicates 81
3.5.2. Dynamic verbal predicates 82
3.5.2.1. Simple 'tense' forms of dynamic verbal predicates 82
3.5.2.2. Progressive 'tense' forms of dynamic verbal predicates 83

Chapter 4: Russian aspectual system 86
4.1. Perfectivity diagnostics 86
4.2. Morphological structure of perfective and imperfective verbs 89
4.3. Syntactic structure of Russian verbs 96
4.3.1. Russian perfective verbs 97
4.3.1.1. Analysis of Russian verbal prefixes 98
4.3.1.1.1. Classification of Russian preverbs 99
4.3.1.1.2. Testing Svenonius's (2004) diagnostics 103
4.3.1.1.3. Semantic function of Russian preverbs 127
4.3.1.1.3.1. Applying telicity diagnostics 128
4.3.1.1.3.2. Russian preverbs under further inspection 137
4.3.1.2. A note on perfectivity 141
4.3.1.3. Calculating telicity in Russian 145
4.3.1.4. Verkuyl's generalization in Russian 157
4.3.1.5. The phrase structure of Russian perfective verbs 162
4.3.1.5.1. Achievements 162
4.3.1.5.2. Accomplishments 169
4.3.1.6. Delimited reading of Russian perfective verbs 171
4.3.1.7. Interaction between perfective aspect and tense 173
4.3.1.8. Concluding remarks: Russian perfectives 178

Chapter 5: Russian imperfective verbs 180
5.1. The phrase structure of Russian imperfective verbs 180
5.1.1. Stative imperfectives 181
5.1.2. Dynamic imperfectives 182
5.1.2.1. Secondary imperfectives 183
5.1.2.2. Primary imperfectives 189
5.2. Russian imperfectives vs. English progressive 195
5.2.1. Habitual reading of imperfectives 195
5.2.2. Delimited reading of imperfectives 197
5.3. Concluding remarks: Russian imperfectives 207
5.4. Concluding remarks: Russian aspectual system 208
5.4.1. Non-dynamic verbal predicates 208
5.4.2. Dynamic verbal predicates 210
5.4.2.1. Aspectually simple forms of Russian dynamic verbs 210
5.4.2.2. Aspectually complex forms of Russian dynamic verbs 212

Part II: L2 acquisition of Russian aspect

Chapter 6: Morpho-syntactic components that English learners must acquire.216
6.1. States 216
6.2. Achievements 217
6.3. Activities 219
6.4. Accomplishments 221
6.5. Telicity parameter 225

Chapter 7: L2 Acquisition of Russian perfective verbs 230
7.1. Acquisition of the Russian telicity-assigning mechanism 231
7.1.1. Experiment 1 231
7.1.1.1. Participants 231
7.1.1.2. Stimuli 232
7.1.1.3. Task 234
7.1.1.4. Predictions 236
7.1.1.5. Results 239
7.1.1.6. Discussion 242
7.2. Acquisition of the Russian shifting operation 247
7.2.1. Experiment 2 248
7.2.1.1. Participants 248
7.2.1.2. Task 248
7.2.1.3. Stimuli 249
7.2.1.4. Predictions 253
7.2.1.5. Results 254
7.2.1.6. Discussion 257
7.3. Blocking analytic future formation 265
7.3.1. Stimuli 265
7.3.2. Prediction 266
7.3.3. Results 267
7.3.4. Discussion 269
7.4. Concluding remarks: L2 Acquisition of Russian perfective verbs 271

Chapter 8: L2 Acquisition of Russian imperfective verbs 273
8.1. Acquisition of secondary imperfectives 273
8.1.1. Stimuli 273
8.1.2. Predictions 275
8.1.3. Results 275
8.1.4. Discussion 277
8.2. Acquisition of primary imperfectives 281
8.2.1. Stimuli 281
8.2.2. Predictions 283
8.2.3. Results 283
8.2.4. Discussion 285

8.3. Acquisition of -*va* attachment 287
8.3.1. Stimuli 287
8.3.2. Predictions 288
8.3.3. Results 289
8.3.4. Discussion 292
8.4. Concluding remarks: L2 Acquisition of Russian imperfective verbs 295

Chapter 9: Putting everything together 297

APPENDIX A 304
APPENDIX B 305
APPENDIX C 312
APPENDIX D 314
APPENDIX E 318
APPENDIX F 320
APPENDIX G 327

References 329

Chapter 1: Introduction

It is a well-documented fact that adult L2 acquisition, unlike L1 acquisition, is rarely fully successful (Sorace 1993, Johnson and Newport 1989). Most of the time, one does not need to be a linguist to distinguish L2 speakers, even near-native ones, from L1 speakers. Given variability of success in L2 acquisition, it is not surprising that for the past two decades L2 research has focused on the question of whether or not native-like behaviour is attainable in L2 (Coppieters 1987, Johnson & Newport 1989, Hyltenstam 1992, Sorace 1993, Ioup et al. 1994, White & Genesee 1996, Birdsong 1999, McDonald 2000, Birdsong & Molis 2001, Marinova-Todd 2003, van Boxtel 2005, Hyltenstam 2007 among many others).

One common trend in early research on ultimate attainment was to present experimental results out of a theoretical context. The problem is that without a theoretical framework, together with specific hypotheses on what grammatical properties L2ers must acquire in order to attain native-like competence, it is unclear whether their 'imperfect' behaviour indeed indicates that their competence is qualitatively different from that of native speakers or whether it is an outcome of problems with other, non-linguistic, cognitive processes that L2ers adopt (Schwartz 1987, Sorace 2003, 2004, Birdsong 2005).

In fact, studies that investigate L2 acquisition of purely syntactic properties report that L2ers perform indistinguishably from native speakers (White & Genesee 1996, van Boxtel 2005, McDonald 2000, 2006). On the other hand, studies that examine language phenomena at *interface* areas, where syntax interacts with other grammatical and cognitive modules report that even near-native L2ers diverge from native speakers (Tsimpli et al. 2004, Sorace & Filiaci 2006, Belletti et al. 2007, Slabakova 2008). For instance, Tsimpli et al. 2004, Sorace & Filiaci 2006 and Belletti et al. 2004 demonstrate that near-native speakers of Italian fail to exhibit, in both production and comprehension, native-like behaviour in respect to non-syntactic properties of subject pronouns, relating to their status as topics. In particular, these speakers overextend overt subject pronouns to cases where native speakers typically use null pronouns. In her earlier explanation of these findings, Sorace argues that L2ers' non-native behaviour reflects their deficient competence with pragmatic constraints that mediate the resolution of pronoun ambiguity

in Italian. Although recently Sorace adopted the view that L2ers' non-native behaviour is more of performance than a competence problem, i.e., (mis)allocation of resources in computation of discourse dependencies (Sorace and Filiaci 2006), nonetheless, the fact remains: the problem with subject pronouns that near-native speakers of Italian exhibit is not of a purely syntactic nature. It 'happens' at the syntactic-pragmatic interface.

Based on their findings, Sorace 2005, Sorace & Filiaci 2006, Tsimpli & Sorace 2006 propose the *Interface Hypothesis* which maintains that while 'narrow' syntax and possibly *internal* interfaces, where syntax interacts with other linguistic modules, e.g., syntax-semantic interface, are spared from persistent non-convergence in L2 acquisition, *external* interfaces, where syntax interacts with other, non-linguistic, cognitive modules, e.g., syntax-pragmatics interface, are prone to non-convergence.

What is appealing about Sorace's hypothesis is that it makes testable predictions. It predicts that L2ers should experience no problems in acquiring the purely morpho-syntactic properties of the target language, while experiencing considerable problems with linguistic properties computed at interfaces with other cognitive modules**.**

Recently, the part of the Interface Hypothesis that postulates categorical division of interfaces into 'problematic' and 'unproblematic' has been questioned on empirical grounds. Thus, as pointed out by White (2009), not all phenomena relating to external interfaces are problematic. Neither are internal interfaces necessarily unproblematic.

Despite this disagreement, there is a general consensus in the L2 literature that syntax is relatively unproblematic. Given this agreed upon claim, the primary goal of the present research is to investigate whether L2ers can successfully acquire morpho-syntactic structure(s) related to aspect. In particular, whether English speakers learning Russian as L2 can attain native-like competence with the morpho-syntax of Russian aspect.

There are at least two reasons why Russian aspect is an ideal candidate for the study of ultimate attainment from the perspective of the Interface Hypothesis. First, it has been repeatedly reported in the pedagogical literature that Russian aspect represents a particular challenge for L2 learners. Second, in order to attain full mastery of Russian aspect, one must not only acquire the morpho-syntactic structure(s) associated with aspect but also non-syntactic knowledge related to aspect. Thus, as I will demonstrate in this

dissertation, while the bulk of aspectual information is encoded by morpho-syntax in Russian, some components of this information are mediated, at interfaces, by pragmatic principles as well as encyclopaedic/lexical and general world knowledge. Given the Interface Hypothesis, it is essential to establish whether the non-native behaviour of L2 learners reported in the pedagogical literature is due to L2ers' inability to acquire the morpho-syntactic structure(s), or failure to acquire or process some other, non-syntactic, components of Russian aspect.

One important discovery that allows us to conduct a more comprehensive study of L2 acquisition of aspect is the finding that natural languages encode at least some of aspectual information syntactically (Travis 2005, Borer 2005, Ramchand 2008). While there is considerable disagreement in the literature over how aspect should be analysed, a syntactic approach to aspect is undoubtedly one that is the most appealing to L2 research. This account, unlike its alternatives, permits us to dissociate purely grammatical components of aspect, from those components calculation of which involves other, non-linguistic, cognitive mechanisms. In other words, a syntactic approach to aspect allows us to determine where the interlanguage of near-native L2ers (i.e., the implicit grammar that they use) diverges, if at all, from the target grammar (as well as from L1). Moreover, it allows us to formalize what exactly L2ers need to acquire in order to attain native-like competence in the target morpho-syntax. This is why another aim of this dissertation is to develop a detailed syntactic analysis of English and Russian aspect.

In this thesis, I adopt Schwartz and Sprouse's (1994, 1996) Full Transfer Full Access (FTFA) hypothesis as my working hypothesis. Full Transfer presupposes that L2ers initial-state grammar is identical to their L1. The Full Access part of FTFA presupposes that L2 adult learners have full access to UG, and, hence, can attain native-like competence in the L2's grammatical properties. FTFA stands in opposition to Bley-Vroman's (1989, 1990), Clahsen and Muysken's (1986) and Schachter's (1990, 1996) belief that adult learners have no access to UG. These researchers hypothesise that L2ers learn, rather than acquire, the target grammar. In particular, instead of acquiring implicit rules of L2, they learn metalinguistic rules in a classroom setting or induce these rules directly from the input using non-linguistic problem-solving cognitive mechanisms. The 'grammar' they construct is, thus, "fundamentally different" from L1 grammar.

A No Access Theory predicts that L2ers' should be unable to attain native-like knowledge of properties that are not explicitly taught in class or that are not easily extractable from the input. It also predicts the possibility of constructing an interlanguage that is not UG-constrained, i.e., a grammar that, while being logically plausible, is nonetheless not a possible human grammar. In contrast, FTFA predicts that an interlanguage, even when it diverges from both L1 and L2, should fall within a range of grammars sanctioned by UG.

Not only does FTFA differ from theories that deny access to UG, it also differs from theories that postulate only indirect access to UG, i.e., through L1 alone (Clahsen and Hong 1995). Note that these theories predict that L2ers can only acquire properties of L2 that are similar to L1, never attaining native-like competence in L2. FTFA also differs from theories that postulate direct access to UG, but no transfer from L1 (Flynn 1987, Flynn and Martohardjono 1994, 1995, Martohardjono 1993, Epstein et al 1996), since these theories deny any effects of the L1 grammar on the interlanguage.

While outlining the framework in which L2 acquisition of Russian aspect will be analysed, I should mention that in this thesis, I will not take any stand on two controversial issues in L2: (1) the role of formal instruction; (2) the role of negative evidence. Following Schwartz and Gubala-Ryzak (1992), I will simply assume that neither of these plays an important role in L2 acquisition.

This thesis is organized as follows. In the remainder of this chapter, I briefly present previous research on the L2 acquisition of Russian aspect as well as outline the main findings of my research. Chapter 2 and Chapter 3 are dedicated to theoretical analyses of the English inner and outer aspect and Chapter 4 and Chapter 5 to theoretical analyses of the Russian perfective and imperfective aspect. Based on previous theoretical research on aspect, in these chapters I develop phrase structures of English and Russian verbal predicates. Apart from purely structural considerations on aspect, I identify non-syntactic components that play role in computation of English and Russian aspect. After establishing a theoretical framework in which aspect should be analysed in the two languages under investigation, in Chapter 6, I present an overview of what exactly English speakers need to acquire in order to attain native-like competence with the Russian morpho-syntactic structure(s) pertaining to aspect. Chapter 7 and Chapter 8

describe two experimental studies testing the L2 acquisition (by English speakers) of Russian aspectual properties that are not found in English. And finally, Chapter 9 concludes the present research and points to new directions for future research.

1.1. Previous research on ultimate attainment of aspect in L2 Russian

Russian aspect has been a topic of many theoretical studies of late (Klein 1995, Schoorlemmer 1995, Filip 2000, Paslawska & von Stechow 2003, Borik 2002 to name few). Surprisingly, very few studies have been conducted on the acquisition of Russian aspect. While we can find several studies on L1 acquisition of Russian aspect (Gagarina 2000, Vinnitskaya & Wexler 2001, Stoll 2003, Bar-Shalom 2003, Brun & Babyonyshev 2003, Kazanina & Phillips 2003, Stephany & Voeikova 2003) only Slabakova (2005) discusses L2 acquisition of Russian aspect. This lack of experimental studies is not particularly surprising if we consider the complexity of the Russian aspectual systems as well as the general 'struggle' to interpret the linguistic data, whether theoretical or acquisitional.

This is not to say that L2 research is not abundant with studies on aspect. Unfortunately, L2 studies on aspect have predominantly concentrated on the emergence and development of aspect/tense morphology at initial stages of L2 acquisition rather than on its ultimate attainment. Research of the past thirty years has resulted in the *Aspect (First) Hypothesis*, which advocates that verb inflections in early interlanguage systems function primarily as markers of lexical aspect (Andersen 1991, Bardovi-Harlig 2000, Li & Shirai 2000, Salaberry 2000, Salaberry and Shirai 2002). This hypothesis was first developed in the context of first language (L1) acquisition and is based on well documented asymmetries in acquisition of aspect/tense. Thus, at initial stages of acquisition, L1 and L2 learners tend to restrict perfective/past verbal forms to telic predicates (i.e., achievements and accomplishments), imperfective/present verbal forms to atelic predicates (i.e., states and activities) and progressive verbal forms to dynamic atelic predicates (i.e., activities).

While the Aspect (First) Hypothesis produced many fruitful results as far as the developmental sequence of tense/aspect morphology is concerned, very little is known about whether aspect can be successfully acquired in L2 acquisition. Only recently,

researchers began examining aspect from the perspective of ultimate attainment (Slabakova 2001, 2005, Kozlowska-Macgregor 2002, Montrul and Slabakova 2002, 2003, Gabriele 2005, 2008, Keiko et al. 2008). Two of these studies examine acquisition of Slavic aspect by English learners. In particular, Kozlowska-Macgregor (2002, 2005) investigates L2 acquisition of Polish aspect and Slabakova (2005) looks at L2 acquisition of Russian aspect.

In the theoretical part of her thesis, Kozlowska-Macgregor (2002) divides Polish perfective verbs into three classes, i.e., *perfective*, *pofective* and *completive*, depending on their morpho-syntactic structure. She then examines whether adult English learners of Polish can successfully acquire these three classes, as opposed to Polish imperfective verbs. In particular, she tests the performance of native speakers (n=27), advanced L2 speakers (n=15) and adult near-native speakers of Polish (n=14) with English as a native language using a semantic compatibility task, an end-state compatibility task and a grammaticality judgment task. Based on her findings, she argues that the near-native speakers of Polish are able to acquire an aspectual system which is in many respects similar to the target system. Their system, however, is *incomplete*, given that near-native speakers exhibit certain difficulties in mapping the multifunctional prefix *po-* to its appropriate interpretation. Kozlowska-Macgregor concludes that the ambiguous behaviour of near-native speakers provides evidence neither for nor against the existence of underlying knowledge, contra Sorace's (1993) claim who believes that optionality indicates lack of relevant linguistic competence.

Slabakova (2005) looks at L2 acquisition of the Russian telicity-assigning mechanism by English learners. Following De Swart and Verkuyl (1999), she assumes that English and Russian have different settings of the *Telicity* parameter[1] – a parameter responsible for the telic/atelic distinction of verbal predicates.[2] While in English telicity is computed within a *v*P-internal AspP (aspectual projection), in Russian it is computed within a PerfP (perfective projection) – a projection that merges above AspP and hosts a perfective prefix. Slabakova claims that in order to achieve native-like competence in the aspectual domain, L2ers must learn two things: (1) the Russian mechanism of telicity

[1] Just like Slabakova (2001), I will also propose a Telicity parameter in this thesis. My parameter, however, is distinct from Slabakova's in a number of ways. We will come back to these differences in section 6.5.
[2] We will discuss this distinction in more detail in the next chapter.

assignment along with a 'new' functional projection (i.e., PerfP) and (2) lexical knowledge of perfective prefixes.

To establish whether English speakers can acquire the Russian telicity-assigning mechanism, Slabakova tested 66 English learners (26 advanced, 20 high intermediate and 20 low intermediate) and 45 Russian controls on an on-line interpretation task. To perform the task, subjects had to compute the telicity value of tested verbs, using either the Russian or English telicity-assigning mechanism. The group and individual results indicate that, apart from 12 low intermediate subjects (whose performance is characterized by residual transfer), all L2ers performed similarly to native controls, suggesting that English speakers acquiring Russian as L2 can successfully acquire syntactic properties associated with aspect. Based on these findings, Slabakova claims that "it must be the case that the perceived difficulty in acquiring Russian aspect lies in learning the lexical items signalling telicity[3], but crucially NOT in learning the grammatical mechanism for telicity marking " (Slabakova 2005, p.74).

While I absolutely agree with Slabakova on her conclusion that acquisition of the Russian morpho-syntax related to aspect is not problematic for L2ers, one has to keep in mind that Slabakova only examines a subset of Russian morpho-syntax, i.e., the phrase structure below the *v*P-level. Apart from replicating Slabakova's findings (using different methodology), I also investigate the acquisition of the Russian *v*P-external structure related to aspect.[4]

[3] As we going to see in this thesis, there are two sides to the lexical problem that L2ers must face, while acquiring Russian aspect. First, as correctly pointed out by Slabakova, given massive idiosyncrasies in the system, they must learn which prefixes can combine with which roots and whether the prefixation causes any shifting in meaning. L2ers who lack this type of 'lexical' knowledge may 'choose' a wrong prefix-root combination. This is essentially a problem of mapping discussed by Prévost and White (2000a, b), Lardiere (2008) and Slabakova (2008), whereby in production L2ers fail to map the [+telic] feature onto a 'correct' morpho-phonological form. While the mapping problem yields the wrong phonological 'output', it, nevertheless, leaves the syntax intact. As a result, the verbal predicate is still computed as telic. But what if L2ers learn some verbs, especially those with idiosyncratic meaning, as chunks, without even realizing that these verbs contain a prefix? This is also a "lexical" problem, although of a different sort. As I will argue in this thesis, this sort of "lexical" problem will play a crucial role in comprehension, whereby L2ers will parse verbal 'chunks' into a wrong (atelic) structure, exhibiting non-native like behaviour.

[4] This being said note that in this thesis I do not provide an analysis of English perfect aspect, which undoubtedly is encoded by a *v*P-external projection.

1.2. A look ahead

In this dissertation, I argue that English speakers learning Russian as L2 can successfully acquire Russian morpho-syntactic structure(s) related to aspect. I base my claim on two experimental studies that demonstrate that near-native speakers of Russian (with English as L1) can perform indistinguishably on tasks that require grammatical knowledge of the Russian aspectual system. Apart from that I show that aspectual properties that require involvement of other cognitive modules, e.g., memory (to learn lexical items and their corresponding meaning) take much longer to acquire. In this respect, I agree with Slabakova's (2005) claim that the predominant view that Russian aspect is tremendously difficult to acquire "stands in need of correction". We need to clarify that the difficulty with Russian aspect lies outside the domain of 'narrow' syntax. Just as suggested by the Interface Hypothesis it looks as if the problems L2ers experience are of the 'external interface' type. I thus predict that even near-native speakers may exhibit non-native behaviour with verbal predicates the aspectual computation of which is mediated by the lexicon/encyclopaedia and pragmatics. Although I leave testing of this prediction to further research, it will become clear from the theoretical analysis of Russian aspect that I develop in this thesis which components of Russian aspect rely on non-syntactic information.

Part I: *Theoretical analysis of English and Russian aspect*

Chapter 2: Theoretical analysis of English inner aspect

For the past 50 years, research on aspect has resulted in a large body of literature (Vendler 1967, Comrie 1976, Dowty 1979, Dahl 1985, Tenny 1987, 1994, Pustejovsky 1991, Travis 1992, 2005, Verkuyl 1972, 1993, Smith 1997, Krifka 1989, 1998, Filip 1999, 2000, 2005, Slabakova 2001, Borer 2005, Ramchand 2008, Rothstein 2004 to name a few). Despite many insightful proposals, there is still considerable disagreement over how aspect should be analyzed. Recent studies, however, point to what is steadily becoming a generally-assumed claim, namely, that there are (at least) two types of aspect. Syntactically, one is found within the little *v*P: *inner* or *situation* aspect and the other is found outside/above the little *v*P: *outer* or *viewpoint* aspect.[5] Semantically, inner aspect is concerned with the *telic/atelic* distinction, while outer aspect is concerned with the *bounded/unbounded* distinction (Depraetere 1995). Let us have a closer look at each of these types of aspect, starting with inner aspect.

2.1. Inner aspect

In the literature, inner aspect appears under different names: *aktionsart*, *lexical aspect* or *situation aspect*. The traditional terms *aktionsart* and *lexical aspect* reflect the fact that the information provided by this aspect, in the days of lexicalists, was thought to be part of the verb's lexical information, and, in current minimalism, is limited to the domain encoding the event structure, i.e., Hale and Keyser's (1993) l(exical)-syntax, Ramchand's (2008) first-phase syntax or simply the verbal domain (*v*P). The term *inner aspect* directly appeals to a syntactic position which is found 'inside' the *v*P, as opposed to *outer aspect* – a syntactic position found 'outside' the *v*P. The term *situation aspect*, used by Smith (1997), goes hand in hand with the intuition that this aspect is concerned with the situation (i.e., event internal) structure.

Regardless of the term used, researchers advocating the two-tiered aspectual system maintain that the inner aspect (the term that I will use throughout this dissertation) is

[5] Many semanticists are reluctant to adopt syntactic analyses of aspect, considering aspect to be a purely semantic notion. Like many before me (Verkuyl 1993, Travis 1992, 2005, Borer 2005 among others), in this dissertation I will demonstrate that there are some aspectual phenomena that cannot be accounted for by a purely semantic approach.

related not only to the semantics of the event structure, but also to the syntactic domain that encodes the event structure, i.e., to the little *v*P-domain (Travis 1994, 2005, Borer 2005, Ramchand 2008). That is why, when addressing the issue of inner aspect, one should determine what part of event structure the inner aspect relates to and how is this encoded by syntax.

In this chapter, I will present the analysis of English inner aspect that I assume in this dissertation. This analysis is largely based on Borer's (2005) analysis, whereby the *v*P-inner AspP is taken to be a projection that encodes telicity of verbal predicates.[6] Only predicates that contain this projection in their syntactic structure are computed as telic. In contrast, predicates that lack this projection are computed as atelic.

But before I present this analysis, I will present some background research on aspect. This research overview is intended to help readers to familiarise themselves with background assumptions as well as aspectual terminology that I adopt in this thesis. Understanding the reasoning behind main discoveries in the domain of aspect will help us later in this dissertation, when we turn to the analysis of Russian aspect.

2.2. Background research

In this section, I present a brief overview of semantic and syntactic research on aspect that is relevant to my analysis.

2.2.1. Vendlerian classification of verbal predicates

In his famous paper 'Verbs and times', Vendler (1967) proposed to divide verbs into four lexical classes: states, activities, accomplishments and achievements. In this dissertation, I will adopt Vendlerian classification to refer to 'prototypical' types of eventualities.[7]

Stative verbs or simply states describe static situations that lack internal structure, e.g., *know, love, be happy*. Activities are dynamic processes that are unlimited in time,

[6] Although my analysis relies on Borer (2005), it is nonetheless not identical with her analysis. For one thing, unlike Borer, I allow for verbal predicates to be prespecified as telic in the lexicon. I also believe that motion verbs require a directed path argument in order to be telic – the view not shared by Borer (2005). In the remainder of this chapter, I will specify where exactly my analysis diverges from hers.

[7] Comrie (1976) and Smith (1991) add the category 'semelfactive' to Vendlerian classes. Given that discussion on semelfactive verbs will be laregely omitted in this dissertation, I do not include them in the general classification.

e.g. *run, work, read books*. Accomplishments are dynamic processes that result in a change of state, e.g., *read the books, buy a sandwich*. And achievements are non-dynamic near-instantaneous events describing a change of state, e.g., *arrive, find, die, recognize* (Vendler 1967, Comrie 1976, Smith 1997, Rothstein 2004).

2.2.2. Semantic analyses of Vendlerian classes

Based on work of generative semanticists, e.g., Lakoff 1965, McCawley 1968, Postal 1970, Ross 1972, Dowty (1979) develops a fine-grained semantic decomposition analysis of verbal predicates. Following his insights, I will assume a two-way division that can distinguish among four classes of verbal predicates. One is the distinction between dynamic and non-dynamic predicates, as predicates that take a volitional subject and those that do not, i.e., activities and accomplishments vs. states and achievements. The second is the distinction between atelic and telic predicates, which opposes states and activities to achievements and accomplishments.[8, 9, 10]

To illustrate this two-way division, consider some examples from Dowty (1979), who uses the predicates BECOME, CAUSE and DO to encode the meaning of verbs (where DO is an eventuality marker, CAUSE specifies a process that leads to a change of state and BECOME encodes a change of state).

(1) a. State: V_n (a_1 …a_n)
e.g. *The linen is white* = [white(linen)]

b. Activity: DO [a_n, V_n (a_1 …a_n)]
e.g. *John swims* = DO [John, swim (John)]

c. Achievement: BECOME [V_n (a_1 …a_n)]
e.g. *The linen whitened* = BECOME [white (linen)]

[8] Vendler (1967) also distinguishes between durative and non-durative verbs. In my analysis, I follow Dowty (1979), Pustejovsky (1988), Verkuyl (1989) and Smith (1997) who consider duration to be linguistically irrelevant.

[9] As can be seen from (1d), Dowty (1979) postulates a third distinction between predicates that encode a causal relation between their subjects and the change of state that these subjects bring about and the predicates that do not encode such a relation. This distinction further differentiates accomplishments from activities. Following Hale and Keyser (1993) I assume that a causal relation arises in the context of DO and BECOME and is, thus, redundant.

[10] Homogeneity is a property that also distinguishes between mass and count nouns (Bach 1981, Krifka 1989, Jackendoff 1987, Filip 1994 among others). We will discuss this in greater detail later in this dissertation.

d. Accomplishment: DO [a_1, V_n (a_1 …a_n)] CAUSE [BECOME [V_n (a_1 …a_n)]]
e.g. *John whitened the linen* = DO [John, whitened (John, linen)] CAUSE [BECOME [white (linen)]]

In the example above, only the activity and accomplishment verbs in (1b) and (1d) contain the operator DO, which indicates that the events that the verbal predicates describe are initiated by an Agent, i.e., *John* in (1b) and (1d). DO, hence, divides verbal predicates into dynamic, such as activities and accomplishments, and non-dynamic, such as states and achievements.

Dowty's semantic decomposition of achievement and accomplishment verbs in (1c) and (1d) reveals that these verbs contain a change of state which is encoded by the operator BECOME. Thus, in both of these examples *the linen* undergoes a change from its 'source' state of being *non-white* to its 'target' state of being *white*. BECOME distinguishes telic verbs such as achievements and accomplishments from atelic verbs such as states and activities.

Pustejovsky (1988, 1991) 'extended' Dowty's (1979) analysis by proposing to divide events into sub-parts. According to his analysis, states lack any internal structure and activities are simply *processes.*

(2) The door is closed – [closed (the door)] - *state*

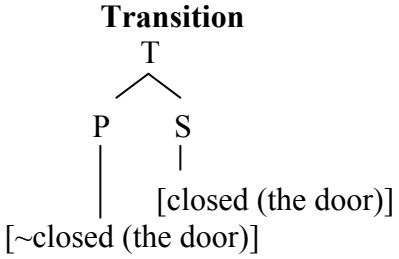
State
S
|
e

(3) John runs – [run (John)] - *activity*

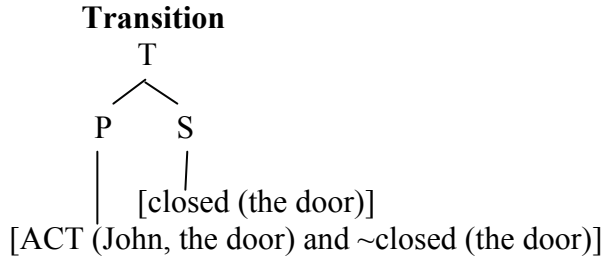
Process
P
△
e_1 …e_n

Pustejovsky views telic verbs such as accomplishment and achievements as *transitions* from the source state to the opposite in value target state or, more precisely, form a process to its resultant state.[11]

(4) The door closed – BECOME ([closed (the door)]) - *achievement*



(5) John closed the door – CAUSE ([ACT(John, the door) and BECOME ([closed (the door)])]) - *accomplishment*



The problem with Pustejovsky's analysis is that, although it admits that the transition sub-event encodes a change-of-state, it postulates that this change is of a specific type: that from a process to a resultant/target state, with temporal ordering between both. Pustejovsky's claim, thus, entails that the culmination point of the event should coincide with a point at which the change-of-state (from a source to the resultant state) is reached. In other words, it entails that the event must end at the moment when the resultant state comes into existence. Pustejovsky's analysis relies on the traditional approach to telicity, according to which the presence of a final boundary (i.e., culmination point) is a necessary condition for telicity to emerge. Many researchers have adopted Pustejovsky's view of transition (Borer 1994, Higginbotham 2000, Hoekstra 1992, van Hout 1996, Kratzer 2004, Snyder 1995, Travis 2005, Smith 1997 among others).

[11] Similarly to Dowty (1979), Pustejovsky uses the predicates ACT (instead of DO), CAUSE and BECOME to describe the semantic components of verbal predicates.

As we will see, the traditional approach to telicity has been criticized on both theoretical and empirical grounds. Not only is it informal and vague (Borik 2002, Filip 1999, Klein 1995, Stoll 2003, etc.), it is empirically inaccurate, as it fails to account for telic events, in which the point at which the change-of-state has occurred does not coincide with the end-point of the entire event (Borer 2005). Moreover, Pustejovky's assumption that achievements contain a process sub-event is dubious.

Despite these flaws, Pustejovsky's decomposition of events into process and transition subparts is on the right track. I thus adopt his decompositional view on events. However, unlike him, I assume, along with Rothstein (2004) and Borer (2005), that transition encodes not a specific kind but any kind of change-of-state. Not only can the change-of-state coincide with the event's final boundary, but also with its initial boundary, or, for that matter, with any temporal point during which the event unrolls.[12] I also assume the difference between achievements and accomplishments, whereby achievements are simply transitions, while accomplishments consist of two subevents: a process and a transition.

To sum up, in Dowty's system the difference in eventuality types emerges from the various combinations of dynamicity and telicity operators. Pustejovsky goes one step further and argues that this difference is due to the presence of various sub-events, either process or transition or combination of both. What Dowty's dynamicity and Pustejovsky's process sub-event share is that they pick up a set of verbal predicates that are encoded by the predicate DO/ACT that introduces a volitional subject. In both systems, telic predicates are attributed to the presence of the predicate BECOME, which specifies a change-of-state.

With the two-way distinction, we have the following semantic characterization of Vendlerian verbal classes:

[12] I take the transition part of events to be instantaneous. In the case of accomplishments the transition comes about as a result of the process, disguising the transition's near-instantaneous nature.

Table 1: Vendlerian classes and their properties:

	Dynamic (DO/ACT)	Telic (BECOME)
States	-	-
Activities	+	-
Accomplishments	+	+
Achievements	-	+

Keeping the initial insights of Dowty and Pustejovsky, many researchers have altered their system in line with recent theoretical developments. Thus, nowadays, the standard assumption is that the semantic operator that introduces the Causer/Initiator external argument is CAUSE (Hale and Keyser 1993, Harley 1995, Arad 1998, Travis 1994, 2005, Ramchand 2008), while HAVE introduces a non-causative external argument (Travis 2006, Noonan 1992). BE is involved in the derivation of stage-level stative predicates.

Once we embrace these changes, we obtain the semantic structures of four classes of verbal predicates identical to ones proposed by Babko-Malaya (1999) and Travis (2005):

(6) Adopted from Babko-Malaya (1999) [13]

States:

λt BE(t, sick(j))	'John is sick'
λt HAVE(t, j, know(the song))	'John knows the song'

Activities

λt∃P CAUSE(t, P(j), ∃y sing (y))	'John sings'
λt∃P CAUSE(t, P(j), read (the book))	'John read the book'

Accomplishments

λt∃P CAUSE(t, P(j), λt∃t' BECOME (open(the door), t, t')	'John opened the door'

[13] Exceptionally, verbs can change their aspectual interpretation. For instance, achievements may be 'turned into' dynamic-like accomplishments. Such coerced achievements can be exceptionally progressivized: *John is dying/arriving* vs. **John is recognizing Mary*. Similarly, states can acquire an inchoative (beginning) achievement reading and activities a completive accomplishment reading, by adding the predicate BECOME. Or, accomplishments may be interpreted as activities by 'severing' their BECOME predicate. Given space and time limitation, in this dissertation I will only mention cases of coercion without analyzing them.

Achievements

λt∃t' BECOME (dead(j), t, t')	'John died'
λt HAVE(t, j, λt∃t' BECOME (know(the song), t, t'))	'John remembered the song'

Importantly, even in this 'upgraded' system, CAUSE is a dynamicity operator and BECOME is a telic operator.

To recap, we have seen that verbal predicates can be divided into states, activities, accomplishments and achievements, using a two-way semantic distinction, namely that between dynamic and non-dynamic predicates and that between telic and atelic predicates. The semantic operator that is linked with dynamicity is CAUSE and the one that is linked with telicity is BECOME. Formally, CAUSE encodes the *process* subevent and BECOME encodes the *transition* subevent.

2.2.3. Syntactic analysis of Vendlerian classes

Hale and Keyser (1993) were first to incorporate the insights of lexical semanticists into the syntactic analysis of English VPs. In brief, they argue that verbal predicates may not only consist of multiple semantic operators, but also syntactically they may be represented as containing multiple syntactic projections. Each of these projections is associated with a corresponding semantic operator. The difference in argumental interpretation emerges from the difference in syntactic positioning of arguments.

Currently, there are many proposals in the literature that argue for a strong correlation between the semantics of event structure and the morpho-syntactic structure of the *v*P (which is claimed to be a syntactic domain of event composition) (Diesing 1998, Ritter and Rosen 1998, Travis 1994, 2005, Borer 2005, Ramchand 2004, 2008 among others).

Foreshadowing the syntactic analysis of English inner aspect that assume in this thesis, note that, similarly to the analyses of Hale and Keyser (1993), Travis (1994) and Ramchand (2008), my analysis reflects the fact that natural languages encode morpho-syntactically subeventual structure that was originally advocated by generative semanticists. Recall that, according to Pustejovsky (1991), two subevents play a crucial role in calculation of aktionsart: the process and transition. In view of a syntactic

approach to aspect, this means that there are at least two syntactic projections within *v*P, one of which encodes the process and another the transition subevent.

Before we proceed with the syntactic analysis of the four Vendlerian verbal classes, one particular question must be dealt with: where does verbal aspectual information come from? Is it contained in the verb's lexical entry or does it come from other, 'syntactic', sources? It is a well-known fact that a specific telicity value of English dynamic verbs depends on the aspectual status of the verb's internal argument (Verkuyl 1993). This value, hence, cannot come from the verb's lexical entry, but must be calculated compositionally. While we will talk about telicity at length in section 2.2.3.2, at this point we need to determine whether aspectual values are always calculated compositionally. Or can it be that an 'aspectual' projection may 'be based' on the information contained in the verb's lexical entry?

Borer (2005) argues for what she refers to as an "exo-skeletal approach to phrase structure" which assumes that syntactic structure is entirely independent of the properties of specific lexemes. If so, then the verb's lexical information should play no role in aspectual composition. And this is exactly what Borer proposes: "aspectuality is not the property of verbs or any argument takers, but rather of specific, universal, syntactic structure" (Borer 2005, p.46).[14]

Although in my analysis of aktionsart I will essentially adopt Borer's view on aspectuality, assuming that, at the interface level, it is the syntactic structure that dictates what aspectual interpretation a given verbal or nominal predicate acquires (leaving aside coercion), I will, however, adopt a more conservative, and, hence weaker version of her approach.

Just like Borer, I will maintain that aspectual notions such as dynamicity and telicity, or even unboundedness, for that matter, are not semantic but rather syntactic notions. However, following Travis (1994) and Ramchand (2008), I assume that a syntactic projection associated with some of these notions may 'owe its existence' to the

[14] In Borer's system, the merger operation, not being constrained in a traditional sense (by a selectional restriction of the verb), allows one to produce a whole spectrum of 'undesirable' combinations. These infelicitous structures, however, are ruled out based on the extra linguistic information, such as world knowledge and convention. Unlike linguistic principles, world knowledge can be overridden by modifying the presuppositions about the world, bringing about the 'coercion' effect.

verb's lexical information.[15] As we have seen, some components of the meaning of verbs, in particular, the operators CAUSE and BECOME, affect *aktionsart*. If the lexical entries of verbs contain the meaning (which is a standard assumption), then the 'aspectual' structure related to the operators CAUSE or BECOME may, technically, originate from the lexicon. Specifically, each of these operators may 'project' its relevant syntactic projection: CAUSE – a projection associated with dynamicity, BECOME – a projection linked to telicity.[16] For example, in English the majority of achievement verbs contain the operator BECOME in their semantic structure, and, hence, in their lexicon, e.g. *die* means 'BECOME dead (not-alive)'. These verbs, thus, are *lexically* telic.

Of course, the verb's lexical information is allowed to project only within the syntactic domain where 'lexical' composition is legitimate. Hale and Keyser (1993), Travis (1994) and Ramchand (2008) define this lexical domain as equivalent to Chomsky's (1995) little *v*P. Hale and Keyser call this syntactic domain the *l-syntax* (lexical-syntax) and oppose it to the *s-syntax* (syntax-syntax) – the domain above the *v*P where lexical composition is prohibited. Ramchand (2008), adopting minimalist terminology, calls it the *first-phase syntax*, provided that the *v*P is a 'first' verbal phase. Crucially, this is the domain restricted to *aktionsart* or situation aspect.

Before we look at the exact syntactic structure of Vendlerian verbal classes, I would like to discuss in more detail the two-way distinction that we have chosen as relevant to the verbal classification, but, this time, not only from the semantic but also from the syntactic perspective.

2.2.3.1. Dynamic vs. non-dynamic predicates

As we have already seen, in a semantic system like Dowty's and Pustejovsky's, dynamicity is associated with *process* part of an event. Because the operator associated with this subevent is CAUSE, Ramchand (2008) labels this subevent *causative*. Accordingly, she calls the argument introduced by CAUSE Causer or Initiator (of the

[15] Importantly, the claim that an 'aspectual' projection may originate from verb's lexical entry does not preclude us from assuming that there are other possible 'sources' for this projection, especially when the verbal entry lacks any aspectual information.

[16] Note that Borer's (2005) claim that lexical information plays no role in aspectual composition is only valid if one rejects the semantic decomposition of 'words'. Naturally, Travis (2005) and Ramchand (2008), who incorporate semantic decomposition into their analyses of aspect, reach a different conclusion.

event) and insists that this argument is distinct from Agent. In this thesis, I will use her term *Initiator* to refer to the external argument of the predicate CAUSE and keep Pustejovsky's term *process subevent* to refer to the dynamic part of event encoded by the syntactic projection headed by CAUSE.

There are two diagnostics that can distinguish English dynamic verbs from non-dynamic ones: the Progressive and Pseudo-cleft diagnostics. Crucially, in English, only dynamic verbs can appear in progressive and pseudo-cleft constructions: [17]

(7) *Progressive diagnostic*

a. Peter was reading books.	- *activity*
b. Peter was reading the books.	- *accomplishment*
c. *Peter was knowing the answer.	- *state*
d. *Peter was finding the keys.	- *achievement*

(8) *Pseudo-cleft diagnostic*

a. What Peter did was read books.	- *activity*
b. What Peter did was read the books.	- *accomplishment*
c. #What Peter did was know the answer.	- *state*
d. #What Peter did was find the keys.	- *achievement*

The main controversy surrounding the head that introduces the Causer/Initiator argument concerns its nature and label. Some researchers assume that this is a functional head (Hale & Keyser 1993, Bowers 1993, Kratzer 1996 and Phlkkanen 2002) and others that it is a lexical head (Travis 2005, Ramchand 2008). Whether or not this head is lexical or functional is irrelevant for my analysis. In fact, both of these approaches are compatible with it. As for the label, in this thesis, I will refer to this projection as to the (little) *v*P, using Chomsky's (1995) label, just as Ramchand (2008) does.

To sum up, in the system that I assume in this dissertation, only the *v*Ps containing a *v*-head occupied by the operator CAUSE are interpreted as dynamic.[18] The argument

[17] Once again, non-dynamic verbs may be coerced into accomplishments, by including the 'preparation' time that lead to the original event. Consequently, they acquire some duration and, as a result of it, the ability to progressivize, e.g., *The plane is landing* or *Peter is dying*.

[18] It is a well-known fact that achievements can be coerced into accomplishments. Such coerced accomplishments can be then used dynamically (in progressive), e.g., *is dying*. However, coerced accomplishments differ from accomplishments that are inherently dynamic. For one thing, in coerced

occupying the specifier of such *causative* *v*P is interpreted as an Initiator of the event (Ramchand 2008).

Importantly, while *dynamicity* results from a syntactic configuration that contains a causative *v*P, *non-dynamicity* is simply a descriptive notion of a structure that lacks such a projection. In other words, *dynamicity* but not *non-dynamicity* is a syntactic notion. It is the manifestation of a causative *v*P projection.

2.2.3.2. Telic vs. atelic predicates

Telicity is one of the properties of events that has been researched the most. While all linguists working on event structure agree that telicity is a linguistically relevant notion, there has been a great degree of variation in attempts to capture what exactly telicity is. Given that the standard procedure in determining whether a verbal predicate is telic or not is to subject it to telicity diagnostics, I will start my discussion of telicity by presenting these diagnostics. Note that establishing which diagnostics accurately identify the telic/atelic distinction is important, as we will use these diagnostics later on in this dissertation, when examining the telicity status of Russian verbs.

2.2.3.2.1. Telicity diagnostics

i. Adverbial modification (Verkuyl 1972, Dowty 1979)

The Adverbial modification diagnostic is one of the most widely used telicity diagnostics, which maintains that telic predicates can only be modified by frame adverbials of the *in X-time* type, e.g., *in an hour* as in (9a), whereas atelic predicates can only be modify by durative adverbials of the *for X-time* type, e.g., *for an hour* as in (9b):

(9) a. Peter ran for an hour/*in an hour. ***atelic***
b. Peter ran a mile *for an hour/ in an hour ***telic***

accomplishments, the preliminary stages that lead to the change of state are *detachable* (Smith 1991, Kamp and Reyle 1993, Rothstein 2004) or, to put it differently, are not part of the original event. Readers are referred to Rothstein (2004) for an extensive list of the differences between coerced and inherent accomplishments.

Since the original proposal of this diagnostic, many linguists have noticed that durative adverbials of the *for X-time* type can appear with some telic verbal predicates, giving rise to a 'process' or 'iterative process' reading of accomplishments (10) and achievements (11)[19] (Rothstein 2004, Filip 1999, Borer 2005).[20]

(10) a. Peter read the book for ½ an hour.
b. The doctor examined the patient for an hour. (Filip 1999)

(11) a. Owls arrived for an hour, bringing letters and packages. (Rothstein 2004)
b. John discovered crabgrass in his yard for six weeks. (Dowty 1979)
c. Mary reached the top for an hour. (Smith 1997)

Regardless of whether the event is perceived as durative or iterative, it lasts only for the period of time supplied by the adverbial. A *for-X-time* adverbial, thus, supplies the event with well-defined temporal boundaries, both initial and final.[21] In the case of the iterative reading in (11), the adverbial delimits otherwise unlimited series of telic events.

The existence of sentences such as in (10) and (11) calls for extreme caution when dealing with durative adverbials, as these adverbials not only identify atelic predicates but also can trigger the coercion of telic predicates mentioned above.[22]

Just as durative adverbials can force a non-telic 'activity' reading of certain accomplishments, frame adverbials can produce a telic reading of states:

(12) John was happy in an hour.

The sentence in (12) is acceptable with an inchoative reading, whereby it took John an hour to become happy. Importantly, when it comes to dynamic verbs, frame adverbials

[19] Unlike accomplishments, achievements, being near-instantaneous events, when combined with a *for-X-time* adverbial, can only acquire an iterative reading.
[20] Given that the choice of telic predicates that are compatible with durative adverbials seems to be mediated by the world-knowledge, as suggested by Filip (1999), the examples in (10) and (11) are cases of coercion.
[21] Note that unlike Smith (1997), I do not believe that accomplishments or activities, for that matter, contain an initial point in their event structure. The initial point of these verbs is rather *arbitrary* (i.e., supplied by the world-knowledge), using Smith's terminology.
[22] In Russian durative adverbials by themselves never trigger coercion of telic predicates. Hence, using durative adverbial to test telicity status of Russian verbal predicate is unproblematic.

are only compatible with telic verbs.[23] Therefore, to obtain accurate results, when testing telicity status of dynamic verbs, we shall rely more on frame rather than on durative adverbials.

ii. Homogeneity diagnostic

The Homogeneity diagnostic states that if a homogenous (atelic) event holds true of a given temporal interval, it will also hold true of any subinterval of this interval. This behaviour of atelic events is contrasted with the behaviour of telic events, where the mentioned entailment relation is disrupted:

(13) a. Peter ran for 1 hour. → Peter ran for ½ an hour. ***atelic***
b. Peter ran a mile in 1 hour. -/→[24] Peter ran a mile in ½ an hour. ***telic***

In (13a) *running* is an atelic event, as there is an entailment relation between the two sentences. If it is true that Peter ran for 1 hour, it is also true that he ran for ½ an hour. On the contrary, in (13b) *running a mile* is a telic event, as here the entailment relation does not hold. If it is true that Peter ran a mile in 1 hour, it can't be true that he ran a mile in ½ an hour, assuming that we are dealing with the same event.

iii. Conjunction diagnostic

The Conjunction diagnostic states that only atelic verbs allow for continuation of the event that they describe:

(14) a. Peter ran and is still running. ***atelic***
b. *Peter ate the apple and is still eating it. ***telic***

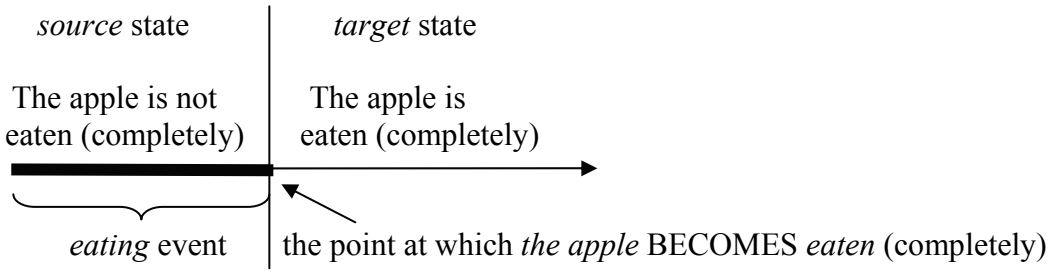
The rational behind the Conjunction diagnostic relies on the well-reported observation that only telic events entail completion and, thus, cannot continue beyond the completion point. For example, *Peter ate the apple* entails that he ate the apple completely/entirely/up until the end and that he stopped the process of eating when he ate

[23] Rothstein (2004) claims that activities can also appear with frame adverbials. Thus, *John ran in an hour* is grammatical if interlocutors have a specific distance in mind. It seems to me that assuming a specific distance suggests that the verb *run* in this example has a covert specific object that actually makes it an accomplishment rather than an activity.

[24] This sign means "does not entail". Unfortunately, there is no better way to represent the lack of entailment using a computer.

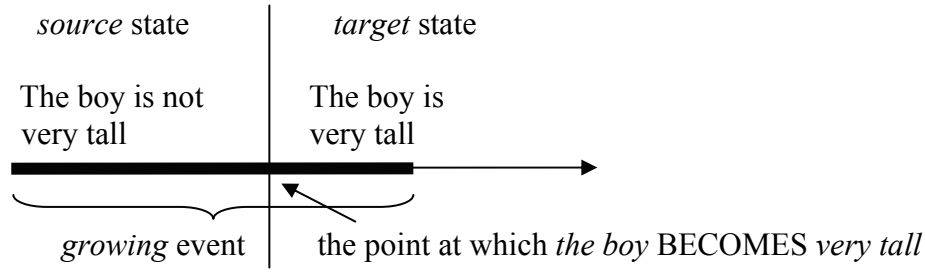
the last piece of that apple. After *the apple* became *eaten*, the event of *eating* (that particular apple) can no longer continue. This is graphically demonstrated by the temporal schema below:

(15) Temporal schema of *ate the apple*:



Unfortunately, not all telic verbs entail completion. Take, for instance, the telic event *the boy grew very tall*. As can be seen from (16), the process of *boy's growing* may continue event after the boy reached a point in his growing where he would be considered by shared conventions to be very tall:

(16) Temporal schema of *the boy grew very tall*:



Given the data in (16), the Conjunction diagnostic should be used with extreme caution when testing the telicity status of verbal predicates. In particular, it should not be applied to predicates that encode events which do not contain a change-of-state that coincides with event's final boundary.

iv. Progressive-past tense entailment (Dowty 1979)

The Progressive-past diagnostic assumes an entailment relation between a past progressive and simple past forms of atelic predicates. This is opposed to the behaviour of telic predicates, which do not license such an entailment.

(17) a. Peter was eating apples. → Peter ate apples. ***atelic***
b. Peter was eating an apple. -/→ Peter ate an apple. ***telic***

While it is true that the progressive version of a telic event does not entail completion (18a), it implicates its beginning given that every event in our world has a beginning (18b):

(18) a. Peter was eating an apple. -/→ Peter ate an apple. ***telic***
b. Peter was eating an apple. → Peter started eating an apple. ****atelic***

Importantly, in (18b) the entailment relation does not reveal the atelic nature of the *started eating an apple* event. In fact, under the view that telicity encodes a change of state rather than the event's final boundary – the position that I adopt in this dissertation – this event is telic, given that the verb *start* encodes the change-of-state (of Peter) from *non-eating* to *eating*. The Progressive-past diagnostic, however, mistakenly classifies this event as atelic.

Consequently, the Progressive-past diagnostic although suitable for completive events, cannot be used to test the telicity status of events which contain a change-of-state that coincides with event's initial boundary in their structure, i.e., inceptive events.[25]

Overall, we have four legitimate telicity diagnostics: the Adverbial Modification, Homogeneity, Conjunction and Progressive-past diagnostics, although the latter two must to be used with caution, given that they test telicity of a specific kind, namely that which arises at the very end of a dynamic event.[26]

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[25] We will discuss inceptive verbs in detail when we examine Russian inceptive verbs.

[26] Borer (2005) uses the Complement telicity diagnostic, according to which only telic predicates can occur as complements of the verb *finish*:

(i) a. ??Peter *finished* eating apples. (?***unbounded***) ***atelic***
b. Peter *finished* eating an apple. (?***unbounded***) ***telic***

There are a couple of oddities related to this diagnostic. First, it is not clear to me that the verbal forms we are dealing with in (i) are not progressive (unbounded/homogenous) to begin with. Second, because *finish* supplies the event with a final end-point (Filip 1999), it is very counterintuitive to assume that it cannot

2.2.3.2.2. Defining telicity

The term telicity was coined to describe events containing an inherent/natural/ potential end/culmination-point or *telos* (from Ancient Greek) in their semantic structure. Events that lack such a point came to be known as *atelic* (Comrie 1976, Smith 1997). Thus, while *building-the-house* is a telic event, since it contains the potential culmination-point at which the house comes into existence, *building-houses* is atelic, since it lacks such a point, assuming that at least hypothetically one can *build-houses* indefinitely.

Defining telicity in terms of having a potential end-point, even if somewhat intuitively true, raises many questions. An immediate concern is that events do not go on indefinitely, but rather have an actual or arbitrary end-point. The problem is: how do we formally distinguish between a potential, actual and arbitrary end-point?

What discredits the validity of the given telicity definition even more is the existence of verbal predicates that describe a change of state, but lack an inherent end-point. Recall that, according to Dowty's (1979) and Pustejovsky's (1988, 1991) semantic analyses, these verbs should be classified as telic, given that they contain the change-of-state operator BECOME or transition, using Pustejovsky's term. However, according to the definition of telicity that relies on the presence of an inherent end-point, these verbs are atelic.

To demonstrate, consider the event of *Kim eating more than enough meat*, discussed in Borer (2005). The eating event may continue even after the point at which Kim ate more than enough meat, where *enough meat* refers to some conventional, agreed upon quantity of meat. In other words, the moment at which the change of state from *eating-not-enough-meat* to *eating-enough-meat* occurs does not necessarily coincide with the end of *eating* event itself. Or quoting Borer (2005): "This sentence is entirely consistent with situation where the sub-event that follows the eating of more than enough

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delimit an unlimited-in-time atelic event, but does delimit an already delimited-in-time telic event. If anything, *finish* should be incompatible with telic events, since these events already have an end-point. Interestingly, in Russian *finish* (*zakončit'*) is incompatible with telic events. In fact, it is only compatible with imperfective verbs that have an ongoing event reading. This suggest that what (i) reflects is not a distinction between telic/atelic events but a distinction between two readings of progressive: a habitual (ia) vs. ongoing-event reading (ib), whereby *finish* is only compatible with the latter but not the former. If so, one should be careful in using the Complement diagnostic as a legitimate telicity diagnostic, especially for languages where a single event and habitual reading of the 'progressive' aspect do not necessarily coincide with the event's telicity status. In order to avoid any inaccuracy in classifying predicates into telic and atelic, I will not use the Complement diagnostic when investigating the telicity status of Russian verbs.

meat, is not in itself a culminating one (in the aktionsart sense), in that the final amount of meat eaten remains immaterial for the truth conditions, just as how far John ran is immaterial for the truth condition of *John ran*" (Borer 2005, p. 149). Hence, *eating-more-than-enough-meat*, although containing a change of state, lacks a non-arbitrary inherent end-point.

Before I can proceed in my analysis we need to decide what property of telic predicates is a defining one. Is it the presence of a change of state or of a culmination-point that is crucial for telicity? Many researchers seem to give a privileged status to the culmination-point (Smith 1997, Krifka 1989, 1992, 1998, Travis 2005, Ramchand 2008 among others). I will, however, follow the conclusion of semantic decomposition analyses of Dowty's style, also adopted by Borer (2005) and Rothstein (2004), in assuming that it is the presence of a transition or change-of-state or, even more precisely, the point in time at which the change-of-state occurs (which may be different from a culmination-point) that warrants a telic interpretation.

If we subject *eating-more-than-enough-meat* to those telicity diagnostics that can accurately identify the telicity status of events whose change-of-state do not coincide with event's final boundary (see section 2.2.3.2.1), we will see that, despite the fact that this event lacks an inherent non-arbitrary end-point, these diagnostics classify it as a telic event.

(19) a. Adverbial modification
Kim ate more than enough meat in 20 minutes/??for 20 minutes. ***telic***

b. Homogeneity diagnostic
Kim ate more than enough meat in 20 minutes -/→ Kim ate more than enough meat in 10 minutes. ***telic***

Given the assumptions that I adopt, the fact that *eating-more-than-enough-meat* is telic shall come as no surprise, as this event contains the change of state from *eating-not-enough-meat* to *eating-enough-meat* which is responsible for its telic interpretation.

Downplaying the importance of an event's final boundary has its consequences. For one thing, we can no longer use the definition of telicity that relies on this notion. Hence, we turn to alternative solutions.

Perhaps the most accepted definition of telicity nowadays is the definition proposed by Krifka (1989, 1992, 1998). Krifka discusses telicity using the algebraically defined notions of quantization and cumulativity, where cumulative predicates are typically atelic and quantized predicates are typically telic:

(20) A predicate P is **cumulative** iff (Krifka 1989, 1992, 1998)

$\forall x, y[[P(x) \wedge P(y) \rightarrow P(x \oplus y)] \wedge card(P) \geq 2]$

In words: P is cumulative iff whenever it applies to x and to y, it applies to the sum of x and y; provided that P applies to at least two distinct entities (otherwise cumulativity is undefined for P).

A predicate P is **quantized** iff:

$\forall x, y[[P(x) \wedge P(y) \rightarrow \neg y<x]$

In words: whenever P applies to x and y, y cannot be a proper part of x.

Krifka (1998) uses *eat apples*, *run* as an example of cumulative predicates and *eat two apples*, *run a mile* as an example of quantized predicates. Thus, *eat apples* is cumulative, as the sum of distinct *apple-eating* events is also an event of *apple-eating*. *Eat two apples*, on the other hand, is not cumulative, since two events of eating two apples do not add up to one event of eating two apples. As a matter of fact, four rather than two apples are consumed as a result of these two events.

Similarly, *run a mile* is a quantized predicate, provided that any part of the event of *running-a-mile* is not in itself a *running-a-mile* event. It contrasts with the non-quantized predicate *run* whose parts can be described as a *running* event.

The appealing side of Krifka's definition is that it not only attempts to define aspectual differences among verbal predicates, but also among nominal ones.[27] Thus, it captures the intuition put forward by various semanticists that not only are stative and activity verbs cumulative/homogenous predicates, but also mass and bare plural nouns. Likewise, not only are achievement and accomplishment verbs quantized, but also singular count and non-bare plural nouns (Bach 1981, Jackendoff 1987, Filip 1994).

[27] Importantly, when analysing verbal predicates, one needs to consider their temporal parts, while when analysing nominal predicates, it is their spatial parts that are relevant.

Unfortunately, as pointed out by Filip (1999) and Borer (2005), Krifka's definition of quantization fails to classify NPs with vague quantifiers like *a lot of, a few, many, much* as quantized. For example, the predicate *many roses* has a sub-part that is also *many roses*. Definite NPs like *the water*, *the people* fail the quantized definition for the same reason. Yet all these NPs are quantized (Carlson 1981, Mittwoch 1988, Moltmann 1991, White 1994, Zucchi and White 1996). Moreover, VPs that contain these 'problematic' NPs also fail the quantization definition, despite the fact that they are telic.

To demonstrate, consider the sentences below, adopted from Borer (2005):

(21) a. We cooked the eggs in 3 minutes. ***telic***
b. We filled the room with smoke in 10 minutes. ***telic***
c. We wrote a sequence of numbers in 1 minute. ***telic***

According to Krifka's definition the verbal predicates in these examples are non-quantized, given that some of their sub-parts have the same property as the predicates themselves. Take, for instance, the event *filled-the-room-with-smoke*. This event consists of many sub-events that are also *filled-the-room-with-smoke*. Hence, it fails Krifka's quantization definition. However, the discussed event contains a change-of-state sub-event, at which the room becomes full of smoke, or, being precise, at which the room changes its state from *being-not-full-of-smoke* to *being-full-of-smoke*. Hence, it is the presence of a change-of-state that renders the events in (21) telic.

The existence of problematic cases forced Krifka (1998) to separate the notion of telicity from that of quantization. He stipulated that while quantization implies telicity, telicity does not imply quantization. Separating telicity from quantization is theoretically undesirable, since it leaves us, once again, without a formal definition of telicity.

In an attempt to account for the 'exceptional' cases, Borer (2005) weakens Krifka's definition of quantization into that of *quantity*.

(22) P is ***homogenous*** iff P is *cumulative* and *divisive*: (Borer, p.74 or p.147):

i. P is *cumulative* iff $\forall x, y\ [P(x) \wedge P(y) \rightarrow P(x \cup y)]$

In words: P is cumulative iff the sum of subparts of P has also the property P.

ii. P is *divisive* iff $\forall x\ [P(x) \rightarrow \exists y\ (P(y) \wedge y < x)] \wedge \forall x,y\ [P(x) \wedge P(y) \wedge y < x \rightarrow P(x-y)]$

In words: P is divisive iff it contains a subpart y which, when subtracted from the subpart x, gives rise to a proper part of x, which has the property P.

P is ***quantity*** iff P is not homogenous.

In order for a predicate to be quantity it is sufficient that it fails to be divisive. Note that Borer's definition of a divisive predicate differs from that of Krifka's quantization in an important way. While quantization is met only if no proper part of P has the property P, quantity may be met even if there are proper subparts of P with the property P, as long as there is at least one sub-part of P which is not itself P.

Using Borer's example, *filled the room with smoke* is quantity, despite the fact that it contains many subparts that are also *filled the room with smoke*. The event is quantity, since it contains a transition subevent. When we subtract this subevent from the remaining subparts, we obtain a subpart that is not equal to the whole event, as the point at which the change of state occurred is missing.

Importantly, the subpart that gives rise to a quantity predicate does not need to coincide with the event's culmination point. In fact, filling the room with smoke may continue even after the point at which one would consider the room to be full of smoke. In other words, Borer's definition captures the intuition that a telic interpretation correlates with the presence of change-of-state rather than with a culmination-point. Borer takes co-finality just to be a special case of telicity. "It has become such a dominant criterion in the discussion of aktionsart due to the prevalence of the *in x-time* test for telicity, which, while certainly testing telicity, is also testing telicity of a particular kind, namely that which arises at very end of the event" (Borer, p. 149).

Borer's definition of quantity is superior to that of Krifka's definition of quantization, since it formally defines all telic predicates as quantities, with no exceptions. Moreover, her definition shares the intuition put forward by Dowty's-type decompositional semantic analyses as well as by analyses of prominent lexicalists (Hey, Kennedy & Levin 1999, Kennedy & Levin 2008, Rappaport Hovav 2008), according to

which telicity is related to the presence of change-of-state. Nonetheless, it faces several conceptual problems.

As noted by Borik (2002), an algebraic definition of homogeneity and non-homogeneity (whether quantization or quantity) only holds of predicates and, technically, leaves no room for compositional telicity advocated by Verkuyl (1993).[28] Perhaps the bigger problem is that it seems counterintuitive to define telicity through homogeneity, given that such a definition implies that telicity arises when homogeneity/atelicity fails. Contrary to this inference, telicity is perceived as a positive value. Thus, by using a telic event, the speaker 'deliberately' makes a change of state salient. He/she does that with a sole goal: to bring the hearer's attention to the change of state part of the event. Atelicity, on the other hand, is a negative value and simply indicates the absence of a change of state. This intuition is reflected in decompositional semantic accounts, which postulate the presence of an operator BECOME in the case of telic verbal predicates and the absence of BECOME in the case of atelic verbal predicates.

To stay away from these conceptual problems, in this dissertation, I will adopt the view according to which telicity is a morpho-syntactic rather than semantic notion (Verkuyl 1993, Travis 1984, Borer 2005, Ramchand 2008, etc.). Following Borer (2005), I assume that telicity is a manifestation of the inner aspect projection. The absence of this projection leads to an atelic interpretation.[29] From the perspective of this analysis, telicity is a positive value, and atelicity is a negative one, conforming to speakers' intuitions.

Despite the fact that I take telicity to be a syntactic notion, I will use Borer's definition of quantity when examining the telicity status of Russian verbal predicates, in disputable cases, to prove that certain 'problematic' verbal predicates are indeed telic. Importantly, this usage of Borer's definition is legitimate, given that her definition accurately classifies telic verbs as quantities, as argued above. Readers, however, should keep in mind that I will use Borer's definition, along with the telicity diagnostics, only as a means of showing that some predicates have a telic interpretation, and not as a means of defining telicity.

[28] We will discuss in considerable length Verkuyl's generalization in the next section.
[29] Hence, atelicity is simply a descriptive term that we will use to refer to predicates that lack an inner aspect projection.

Having discussed what telicity really is, let us see how exactly one obtains a telic/atelic interpretation.

2.3. Calculating telicity in English

According to Pustejovsky (1991), the 'telic' operator BECOME encodes the *transition* part of an event.[30] Once we translate this statement along the lines of Hale and Keyser's (1993) analysis, we obtain the following statement: a telic interpretation arises as a result of the *v*P containing a syntactic projection the head of which is occupied by the operator BECOME. Following Borer (2005), I will call this projection Asp_QP[31] and assume (along with Travis 1994, Slabakova 2001) that it is positioned in between two VPs, in particular, above the VP and below the little *v*P. When well-formed, this projection gives rise to a telic reading (Borer 2005). The question that I would like to address in this subsection is how exactly this projection is properly licensed.

First and foremost, for telicity to arise, Asp_QP must be merged (Borer 2005). But what elements can 'trigger' this merger?[32]

It is a well-reported fact that in English telicity can depend on various factors: the aspectual nature of the internal argument, the aspectual nature of the PP, the presence of a particle, the verbal predicate semantics, the type of construction (e.g., resultative constructions), and the presence of some measuring adverbials. Thus, it must be that each of these 'triggers' is in someway responsible for the projection of the Asp_QP. Let us consider each of them in its turn.

(i) ***The internal argument as telicity trigger***

Verkuyl (1972, 1989, 1993) points out that in English aspectual characteristics of the verb's internal arguments play a crucial role in determining the verb's aktionsart type. Specifically, the difference between dynamic verbs (i.e., [+ADD ON] verbs in Verkuyl's term) such as activities and accomplishments boils down to the difference between the

[30] Recall that I take transition to encode the change-of-state subevent rather than resultative subevent.

[31] Borer's Asp_QP stands for a Quantity Phrase, i.e., the phrase necessary for a quantity interpretation to emerge. In the remainder of this thesis, I will use Asp_QP to refer for the inner aspect projection.

[32] While Borer (2005) goes into conciderable lengh in discussing what elements can assign range to an $Asp_Q°$ (the operation that we will see shortly), she does not elaborate much on how an Asp_QP is merged, i.e., what elements 'trigger', the merger of an Asp_QP.

aspectual values of these verbs' internal arguments. While the internal argument of accomplishments has an [+SQA] (i.e., SQA = Specified Quantity of things or mass) value, the internal argument of activities has a [-SQA] value. Verkuyl also notes that accomplishments always select for an internal argument, while activities are free to appear without it.

Given that the internal argument of states can be either [+SQA] or [-SQA], Verkuyl concludes that the internal argument of non-dynamic verbs (i.e., [-ADD ON] verbs) plays no role in aspectual composition.

Borer (2005) argues that Verkuyl's [+SQA] feature corresponds to her notion of 'quantity', introduced in section 2.2.3.2.2. Assuming that Borer is right, we can restate Verkuyl's original generalization as follows:

(23) Verkuyl's generalization (modified):

There are two main distinctions between dynamic telic (i.e., accomplishments) and dynamic atelic (i.e., activities) verbs:

(a) the internal argument of dynamic telic verbs is obligatory, while the internal argument of dynamic atelic verbs is optional;

(b) the internal argument of dynamic telic verbs is quantity (i.e., singular indefinites, definites or quantificational nouns) while the internal argument of dynamic atelic verbs, if present, is non-quantity/ homogenous (i.e. mass nouns or bare plurals).

The data in (24) demonstrate that dynamic telic predicates always appear with quantity internal arguments. Thus, the singular indefinite (24a), the singular definite (24b), the plural definite (24c) and the quantificational (24d) internal argument all give rise to dynamic telic events:

(24) a. Arthur planted [a protective circle of mushrooms] around the house in one day. ***telic***

b. Edmund ate [the box of Turkish Delights that the Queen gave him] in 5 minutes. ***telic***

c. Susan read [the engravings on the door] in 2 minutes. ***telic***

d. The magician produced [two maps of Narnia] in an instant. ***telic***

The data in (25), on the other hand, shows that dynamic atelic predicates can appear either without any internal argument or with a non-quantity/ homogenous argument. Thus, the absence of the internal argument, as in (25a), or the presence of a mass or bare plural internal argument, as in (25b) and (25c) respectively, are compatible with the atelic activity reading of dynamic predicates:

(25) a. Shasta waited for them *in 2 days/for 2 days. ***atelic***
b. Lucy drank tea *in ½ an hour/for ½ an hour.[33] ***atelic***
c. Arthur saddled horses *in 10 minutes/for 10 minutes. ***atelic***

Verkuyl's generalization has proven very influential in subsequent treatment of aktionsart (Tenny 1987, Dowty 1991, Krifka 1992, 1998, among others). For syntacticians, the significance of his generalization, above all, is that it argues for the syntactic view of aktionsart, demonstrating that it is a property of the entire *v*P, rather than of the verb per se. Verkuyl's generalization leads to the conclusion that the Vendlerian verbal classes are outcomes of different syntactic structures (i.e., the *v*P structure). This conclusion is in agreement with the syntactic approach to aspect I advocate in this dissertation.

All analyses trying to capture Verkuyl's generalization postulate some kind of mechanism that allows the verb's internal argument to make the *v*P telic. For instance, Tenny (1987) argues that it is the *affected* argument (i.e., the argument that undergoes some sort of identifiable change/transition during the course of the event) that *delimits* or *measures out* the event, i.e., supplies it with a final boundary/terminus or, in other words, makes it telic. In the literature, the *affected* argument appears under different names: as *subject-of-change* or *Undergoer* (Ramchand 2008), *subject-of-quantity* (Borer 2005), *Gradual Patient* (GP) (Krifka 1989, 1992) and *Incremental Theme* (IT) (Dowty 1988, 1991). In this thesis, I will use Ramchand's term Undergoer to refer to an argument that undergoes a change-of-state.

Krifka (1989, 1992) and Dowty (1988, 1991) claim that telicity arises as a result of a homomorphism between the lattice structure associated with the GP/IT argument and

[33] To obtain accurate judgments, one must be careful not to shift mass reading of *tea* to its quantificational reading, i.e., *a cup of tea*. The latter, but not the former, being a quantity NP, is compatible with *in ½ hour*.

the lattice structure associated with the event. The quantized (i.e. telic) interpretation of an episodic (i.e., single) event arises if in the course of that event, the GP/IT structure was successfully mapped onto the event structure, and vice versa, gradually, 'bit by bit'. At the point when the 'final' part of the GP/IT is mapped onto the event, the event becomes 'delimited', 'measured out', quantized, or simply telic. Since only a quantized GP/IT has such a 'final' part, the complex verbal predicates that appear with quantized GP/IT receive a quantized (i.e., telic) interpretation and those that appear with cumulative GP/IT receive a cumulative (i.e. atelic) interpretation.

To demonstrate, consider e*at-a-sandwich* event. As this event progresses, *a-sandwich* undergoes a gradual/incremental change, part by part, which is correlated with the gradual/incremental development of the *eating* event. The event is over exactly when *a-sandwich* is fully eaten.[34]

Researchers who adopt a syntactic approach to aspect usually assume that Verkuyl's generalization is derived via a spec-head agreement relation in the syntactic projection that is dedicated to the computation of telicity, i.e., in Travis's (1994) and Slabakova's (2001) *inner aspect projection*, Ramchand's (2008) *process projection* or Borer's (2005) *Quantity projection* (Asp_QP). For instance, according to Borer (2005), in English the quantity DP in specifier of the Asp_QP makes the verbal predicate in Asp_Q^o and, consequently, the entire *v*P quantity. This is achieved through the spec-head agreement relation, which copies the quantity value of nominal predicate in [Spec, Asp_QP] onto the verbal predicate in Asp_Q^o, giving rise to a quantity event.

In Borer's system the necessity of agreement comes from her assumption that each functional head, including Asp_Q^o, dominates an open value that must be assigned range. In other words, for a verbal predicate to receive a quantity interpretation not only must it contain a quantity projection, i.e., Asp_QP, but also the head of this quantity projection must be assigned range.[35]

[34] Note that Krifka's and Dowty's analysis only work for accomplishment verbs, where the change is perceived as gradual. When it comes to achievements, however, the change is not gradual but rather near-instantenous.

[35] Alternatively, range assignment could be justified by the need of the 'underspecified' aspectual feature in Asp_Q^o to be checked/valued. Otherwise, we will end up with an uninterpretable feature that will cause the derivation to crash, or, in the best case scenario, to undergo some sort of coercion. Crucially, this uninterpretable feature must be linked with Asp_Q^o rather than with the verbal predate itself, as it needs to be checked/valued only when Asp_QP is present (not in the case of atelic verbs). As the technicality of range

As has been mentioned previously, the Asp_QP is the projection where quantity/telicity is computed cross-linguistically. The range assignment mechanism, however, is language-specific and can happen in two different ways: (1) directly to Asp_Q^o or (2) through spec-head agreement. In English, the open value of Asp_Q^o acquires its range from a quantity DP in [Spec, Asp_QP] via spec-head agreement.[36] The derivation in which [Spec, Asp_QP] is occupied by a non-quantity DP (with mass or bare plural nominals) will not converge, since in this case there is no range assigner. In Russian, and other Slavic languages, the open value of Asp_Q^o acquires its range directly, usually from a telicity marking aspectual morpheme. We will come back to the direct range assignment in the section dedicated to the Russian telicity assigning mechanism. For now let us focus on English.

Abstracting away from the exact structure of nominal predicates and from the details of Borer's proposal, I will simply refer to the aspectual value that gets copied in course of agreement as [quantity].[37] Given that the predicate BECOME is associated with quantity predicates, let us assume that BECOME is a semantic manifestation of the [quantity] feature.

Within the syntactic framework that I assume, Verkuyl's generalization not only suggests that English verbal predicates acquire their [quantity] value from a quantity DP through spec-head agreement, but also that in English well-formed quantity nominal predicates are able to 'trigger' the merger of Asp_QP, in the absence of any violations (in which case the derivation will not converge).[38]

Let me elaborate on this point. First, note that the nominal argument occupying the [Spec, Asp_QP] receives a subject-of-quantity or subject of (quantifiable) change

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assignment plays no role in the present study, I simply assume that range assignment is an operation that assigns the [quantity] feature to the verbal predicate that occupies an Asp_Q^o.

[36] Following Travis (1994), I assume that this DP originates within the VP projection and then moves to the [Spec, Asp_QP].

[37] Because in the system proposed here atelic verbs do not have Asp_QP (contra Slabakova 2001), there is no need to postulate [-quantity]/[-telic] feature. Hence, [quantity] is a monovalent feature.

[38] Borer (2005) argues that nominal quantity predicates, i.e., singular indefinite, definite and quantificational DPs, similarly to verbal quantity (telic) predicates, i.e., achievements and accomplishments, have more complex structure then their homogenous counterparts. Specifically, quantity predicates, whether nominal or verbal, contain the syntactic projection 'responsible' for a quantity interpretation, i.e., #P in the case of DPs and Asp_QP in the case of *v*Ps. Borer notes that telicity may be licensed in the context of a quantity DP that contains the range-assigned #P projection. Her observation coincides with my claim above.

interpretation, i.e., Undergoer role.[39] Consequently, if we assume, along with Hale and Keyser (1993), Travis (2005), Borer (2005) and Ramchand (2008), that argument roles are purely structural notions (specifically, that an argument's interpretation depends on the nature of the head in the specifier of which the argument appears), then the only structure that can 'assign' an Undergoer role to one of the verb's arguments is the one where the *v*P contains an Asp_QP. Put it differently, if Asp_QP does not merge with VP, none of the verb's arguments will be able to receive an Undergoer role. The fact that telic *v*Ps obligatorily contain an Undergoer argument (see 23a) suggests that quantity DPs can license the merger of Asp_QP. Hence, we will take a quantity DP to be one of elements that can license the merger of the Asp_QP in English.

Licensing 'the merger of the Asp_QP' can be better explained in the system such as Borer's (2005), where syntax generates at least two structures: one with and one without an Asp_QP, and then only the derivation that can assign an appropriate argument role to the DP in question, i.e., Undergoer argument, converges. Borer's system also allows us to incorporate, Travis's (1994) claim that the DP in [Spec, Asp_QP] does not originate in this position, but rather moves there from within the VP projection – the claim that I adopt in this dissertation.

To recap, to form a well-formed quantity *v*P in English two conditions must be met:

(26) Conditions on aspectual composition (English):

a. The Asp_QP must be merged, hosting the Undergoer argument.
(this accounts for Verkuyl's generalization (23a))

b. DP in [Spec, Asp_QP] must be quantity, in order to be able to assign range to the open value of Asp_Q^o.
(this accounts for Verkuyl's generalization (23b))

The two conditions in (26) are intimately interrelated. A violation of either of them yields an illicit telic structure.

So far we have seen that a quantity DP can licence a merger of an Asp_QP, satisfying the condition (26a). As has been mentioned before, there are other elements in English that also trigger merger of an Asp_QP. Let us continue our investigation of these 'triggers'.

[39] Importantly, the DP in [Spec, Asp_QP] is not a subject-of-result or subject-of-target-state, despite the fact that it often correlates with it.

(ii) ***Lexical BECOME as telicity trigger***

Intriguingly, the majority of English achievements do not follow the composition rule (26b). These verbs remain telic even when they appear with a non-quantity Undergoer argument.

(27) a. Help reached me in 5 minutes. (from Rothstein 2004)
b. Owls arrived in 5 minutes, bringing letters and packages.
c. I recognized garbage in a minute/within a minute of beginning to read the paper.

To explain this fact researchers have postulated that achievements have an option to be lexically telic. Put differently, achievements have an option to contain the feature [quantity] or, alternatively, the predicate BECOME in their lexical specification (Slabakova 2001, Travis 1994).[40] This feature/predicate triggers the projection of Asp_QP, and since the head of this projection does not contain an open value but is fully specified as [quantity] (or contains BECOME), the range assignment is not necessary.

I thus assume, contra Borer (2005), that lexemes are not completely deprived of information. Importantly, the structure of these verbs does not violate the conditions in (26) in that (1) it contains the Asp_QP and (2) the Asp_Q^0 is fully specified as [quantity].

(iii) ***Resultative construction as telicity trigger***

Resultative constructions, examples of which are given in (28)-(30), represent yet another case where an element other than the Undergoer, namely, the complement clause, has been claimed to licenses the merger of an Asp_QP.

(28) a. Kim hammered the metal flat. - ***transitive*** (adopted from Borer 2005: 224)
b. Robin painted the barn red.
c. Pat wiped the table clean.

[40] Since achievements are not focus of this dissertation, I simply assume that the claim according to which majority of English achievements do not acquire their telicity compositionally to be empirically true, without further investigation. Note, however, that this claim does not entail that all achievements are lexically prespecified. Those achievements that lack a 'lexical' [quantity] feature can acquire this feature compositionally.

(29) a. The river froze solid. - ***intransitive***
b. The vase broke to pieces.
c. The ball fell down.

(30) a. Robin ran her shoes threadbare. - ***ECM construction***
b. ?Pat sang the babies asleep.
c. The dog barked me awake.

Many linguists analyze resultatives as consisting of two subevents: the process/activity subevent and the resultant state with the causative relation between both (Tenny 1987, 1992, 1994, Jackendoff 1990, Rappaport and Levin 1996 among others).

Following Rothstein's (2000a, 2004) criticism of such analyses, I assume along with her that resultatives, together with accomplishment verbs, consist of process and transition subevents. In other words, resultatives have a *v*P structure that contains the Asp_QP (Hale and Keyser 1993, Slabakova 2001, Borer 2005).

Interestingly enough, in order to receive a telic interpretation, a resultative construction must contain the Undergoer argument. To demonstrate, consider the intransitive atelic 'resultative' or, more accurately, depictive verbs in (31), adapted from Borer (2005):[41]

(31) a. Robin ran asleep (i.e., she ran while she was asleep) *in 10 minutes/ for 10 minutes. ***atelic***

b. Kim danced wet with sweat *in 5 minutes/for 5 minutes. ***atelic***

The atelicity of the examples in (31a) and (31b) is due to the absence of the Undergoer argument, the presence of which is crucial for telicity. Adding a quantity DP (that can serve as Undergoer) to the structure in (31) as shown in (28)-(30) gives rise to a

[41] Rothstein (2004) provides two examples of intransitive unergative resultatives: **John sang asleep* and **Bill laughed sick*. She claims that both of these are ungrammatical rather than atelic. In Borer's system these sentences, would be ruled out by the world knowledge, rather than by the purely linguistic principles, given their conceptual oddity. The fact that there is a great variability in the judgment of the sentences in (31) may hint that Borer, rather than Rothstein is on the right track. If, however, it turns out that Borer is wrong, and that the sentences in (31) are indeed ungrammatical, then to account for their ungrammaticality, we need to postulate that in the case of resultatives, it is the complement clause and not the quantity DP that triggers the projection of Asp_QP. In either case, as we will see shortly, the quantity DP in [Spec, Asp_QP] must assign range to Asp_Q^o.

well-formed resultative, suggesting that it is this extra DP that licenses the merger of Asp_QP.

Another way to alter the construction in (31) so to obtain a legitimate resultative, is to allow the only argument to serve a double purpose, namely, to fulfill the function of both the Undergoer and the Initiator argument. This can be achieved by co-indexing the external argument with the reflexive DP in [Spec, Asp_QP], as shown in (32):

(32) Bill laughed <u>himself</u> sick. (from Rothstein 2004)

Not only does the quantity Undergoer license the merger of an Asp_QP, but it also assigns a range to the open value of Asp_Q^o. If there is no legitimate range assigner, i.e., no quantity DP, the structure containing an Asp_QP will not converge. Alternatively, the structure that lacks an Asp_QP will be chosen, whereby internal non-quantity argument is merged within the VP projection. Consequently, having a non-quantity internal argument will produce an atelic interpretation, just as predicted by the Verkuyl's generalization:

(33) a. John hammered <u>metal</u> flat *in an hour/for an hour. ***atelic – transitive***
b. Kim sang <u>babies</u> asleep *in an hour/for an hour. ***atelic – ECM***

To sum up, the resultative constructions obey the rules of aspectual composition that we postulated in (26) to account for Verkuyl's generalization. In particular, they contain the Asp_QP, which merges to host the Undergoer argument. Once in [Spec, Asp_QP], this argument transmits its [quantity] feature to the verbal element in Asp_Q^o, giving rise to a telic interpretation of *v*P.

(iv) ***Particles as telicity triggers***

In English, particles in sentences such as (34a)-(34d), apart from altering the verb's meaning, 'trigger' the projection of an Asp_QP (Filip 1999, Borer 2005).

(34) a. I wrote <u>the reports</u> **up**.
b. John climbed **down** <u>the mountains</u>.
c. I took **over** <u>the company</u>.
d. John drank **up** <u>the wine</u>.

The observation that is crucial for the analysis of English particles is that they cannot assign a range to the open value of Asp_Q^o, causing the derivation with no other range assigner to crash (Borer 2005). This is demonstrated by the sentences in (35), which contain non-quantity DPs that, as we have seen already, are unable to assign range to Asp_Q^o. Hence, English particles, just like non-quantity DPs, are not range assigners: [42]

(35) a. *Kim wrote reports **up**. (adapted from Borer 2005 and Filip 2005)
b. *John climbed **down** mountains.
c. *Kim ate sandwiches **up**.
d. *John drank **up** wine.

Nevertheless, the fact that the sentences in (35) are ungrammatical suggests that particles indeed occupy Asp_Q^o.[43] Thus, in order to obtain a legitimate atelic construction (i.e., with no Asp_QP), not only must the verb's internal argument be non-quantity, but also the construction must be particle free, as in (36):

(36) a. Kim wrote letters (for 3 hours/*in 3 hours).
b. John climbed mountains (for 3 days/*in 3 days).
c. Kim ate sandwiches (for a week/*in a week).

In the system advanced in this dissertation, the claim that particles occupy Asp_Q^o amounts to saying that particles license the merger of Asp_QP. But, as we have already established, despite this fact, particles by themselves do not give rise to a well-formed telic structure. This may be accounted for by assuming that particles lack [quantity]

[42] Romanova (2007), following Svenonius (2004), argues that English particles have many things in common with Slavic aspectual prefixes. While I agree with majority of their observations, we must not forget about one crucial property that makes English particles different from Slavic prefixes. While it might be true that English particles used to be telicity markers, just as Slavic aspectual prefixes are, they have entirely lost this function. Consequently, unlike in the case of Slavic prefixes, it is the presence of a quantity DP (in [Spec, Asp_QP]) rather than the presence of a particle in Asp_Q^o that is a necessary condition for a well-formed telic predicate. The main function of particles seems to be to supply the verb with a new, usually idiosyncratic, meaning.

[43] Note that the sentences in (35) are only ungrammatical on a single-event reading, as opposed to a habitual reading (Borer 2005). Even when having a habitual reading, they simply encode series of atelic events, suggesting that they lack an Asp_QP.

(ii) a. Kim wrote **up** reports for 3 hours/??in 3 hours.
b. John climbed **down** mountain for 3 days/*in 3 days.
c. Kim ate **up** sandwiches for ½ an hour/*in ½ an hour.
d. John drank **up** wine for ½ an hour/*in ½ an hour.

feature necessary for a telic interpretation to emerge. Instead, the $Asp_Q°$ that these particles occupy acquires its [quantity] feature from the quantity DP in [Spec, Asp_QP] via spec-head agreement as in (34).[44]

In short, in English $Asp_Q°$ receives its aspectual feature through spec-head agreement, even in particle constructions.

(v) ***Directional – locative PPs as telicity triggers***

Motion verbs can be delimited by particles or by directional-locative or *path-goal* PPs (Travis 2006, Krifka 1998, Filip 2000, Borer 2005).

(37) a. Kim ran **out** (of the store) in two seconds. (adapted from Borer 2005: 203)
b. John climbed **down** (the tree) in two seconds. [45]
c. Pat danced **into** the room in two seconds.
d. Peter walked **into** the school in two seconds.

According to Krifka (1998), in the case of motion verbs, it is the Delimited Path argument which specifies the direction of the motion that measures out the event, rendering it telic. The event reaches its culmination point when the path is 'used up' and the subject is at the location specified by the end of the path, i.e., at the goal. For instance, in (37d) the event of *walking into the school* is over, once Peter is in the school. In other words, telic motion verbs contain a change-of-location (of Undergoer) subevent. Not surprisingly, only directional-locative PPs can encode this subevent. The PPs that are simply directional as in (38a) or locative as in (38b) yield atelic events:

(38) a. John ran **towards** the store *in 10minutes/for 10 minutes. - *directional*
b. Pat run **in** the park *in ½ an hour/for ½ an hour. - *locative*

While the structure of motion verbs is largely outside the scope of this study, one particular construction must be dealt with, as, at first glance, it seems to constitute a counterexample to Verkuyl's generalization. What I have in mind here is verbs with

[44] Interestingly, English prefixes *re-*, *half-* and *out-* seem to function as particles, in that they occupy $Asp_Q°$ and require a presence of a quantity Undergoer argument.
[45] It seems to me that even in (37a) and (37b), it is the PP that makes the *v*P telic. What makes these examples different from (37c) and (37d), however, is the fact that the object of P° can be covert.

motion-like interpretations, e.g., *push*, *pull*, etc. These are often referred to as to the *push*-type verbs in the literature, after the 'prototypical' member of the group.

The *push*-type verbs are interpreted as telic only if, similarly to intransitive motion verbs, they occur with a directional-locative PP as in (39). Otherwise, they receive an atelic interpretation as shown in (40):

(39) Peter pushed the cart **into** the garage in 10 minutes. ***telic***

(40) a. Peter pushed the cart *in 10 minutes/for 10 minutes. ***atelic***
b. Peter pushed the cart **towards** the garage *in 10 minutes/for 10 minutes. ***atelic***
c. Peter pushed the cart (while) **in** the store *in 10 minutes/for 10 minutes. ***atelic***

To be telic these verbs not only have to be ditransitive[46], but also contain a 'right' type of PP, i.e., a directional-locative PP.[47] Intriguingly, the telic interpretation becomes unavailable if the Undergoer argument is not quantity:

(41) Peter pushed carts into the garage *in 10 minutes/for 10 minutes. ***atelic***

The data in (41) suggest that the verbs of *push*-type obey the Verkuyl's generalization in (26b), as they are sensitive to the aspectual status of the Undergoer argument. What makes them different from the other verbs is that they additionally require a presence of the directional-locative PP, as they specify the change-of-location of the affected argument rather than its change-of-state. In the absence of the PP (40a) or in

[46] The requirement according to which the telic version of the *push*-type of verbs must be ditransitive is even better demonstrated by Russian data, where the preverb occupies the Asp_Q^o. Failure to merge the PP argument, leads to inability of the preverb to merge (given that the Asp_QP is not properly licensed), which in its turn results in ungrammaticality.

(iii) Petja **za**sunul ruku *(v karman).
Petja *za*-push hand in pocket.
'Petja put the hand into the pocket.'

[47] Borer (2005) argues that the fact that the *push*-type verbs require a path-goal PP is mediated by the world knowledge. While *pushing carts* is not consistent with a well-established telic event, *pushing the button* is consistent with it. It seems to me that the telicity of *push the button* is rather 'idiomatic', as there is only one possible, and hence, predefined path along which the change-of-location can occur. I, thus, take the condition that forces *push*-type of verbs to occur with a path-goal PP to be part of the grammar. Interestingly, Romanova (2007) notes that in Russian the Delimited path argument can be dropped when its content is deductible from the context or when the expression has become idiomatic. For instance, the expression ***vy**brosit' košku* *(*iz okna*) 'throw-out the cat from the window' is ungrammatical without a path-goal PP, while its idiomatic counterpart can freely appear without it: ***vy**brosit' musor* 'throw-out the garbage'. Non-coincidentally, *push the button* resembles the latter case.

the case when simply a directional or locative PP is merged (40b-40c), Asp_QP is not merged (as it fails to be properly licensed), resulting in atelic interpretation. Note that in (40a), (40b) and (40c) the events are atelic, in spite of the fact that the Undergoer argument is quantity (i.e., the definite DP *the cart*), precisely because these events lack an Asp_QP. In the case of motion verbs, thus, merging a quantity Undergoer is a necessary but not sufficient condition for telicity to emerge, i.e., for an Asp_QP to be merged and properly licensed.

To recap, in the case of motion verbs it is the directional-locative PP that triggers the merger of Asp_QP rather than a quantity DP. Yet, the presence of a quantity DP in the [Spec, Asp_QP] is essential, provided that in English $Asp_Q°$ can acquire its quantity feature only via spec-head agreement from this quantity DP. The failure to comply with any of these two conditions gives rise to an atelic interpretation, demonstrating that merger of Asp_QP was 'unsuccessful'.

(vi) ***Adverbs as telicity triggers***

In English, adverbs of quantification such as *once*, *twice* render the event they appear with telic:

(42) a. Robin danced *once* in five hours. (from Borer 2005)
b. Pat laughed *twice* in three days.

As we have already seen, durational adverbials of *for X-time* type can also turn an atelic event into a telic one, providing it with well-defined temporal boundaries, both initial and final:

(43) a. Peter ate apples for ½ an hour.
b. The doctor examined patients for an hour.

I consider cases of adverbial modification that change an event's aspectual interpretation as instances of coercion rather than of compositional aspectuality. The time adverbials alter the event's interpretation by delimiting the event on the time axis in a manner that they specify. They do not, however, change the event's phrase structure. This means that time adverbials do not produce a telic interpretation in the structural sense of

this term. In other words, I assume that they fail to trigger the merger of an Asp_QP. Later in this dissertation we will discuss at more length how durative adverbials delimit events in time without rendering them telic. For now, let me conclude this section.

To sum up, in this section we have established that for a telic interpretation to arise two universal conditions must be met: (i) the *Quantity phrase* (Asp_QP) must be merged and (ii) the verbal predicate in Asp_Q^o must acquire the [quantity] value (Borer 2005).

The thorough examination of the first of these two conditions has led us to the conclusion that there are number of elements that can trigger merger of Asp_QP in English. In particular, Asp_QP can be 'projected' based on the lexical information of the verb, i.e., a lexical feature [quantity] (or lexical BECOME). In the absence of such information, a syntactic element, such as a particle, a quantity DP or a path-goal PP (for motion verbs), functions as a trigger. As we will see in the chapters dedicated to Russian, the same elements can trigger projection of an Asp_QP in Russian, suggesting that the array of linguistic items that licenses merger of an Asp_QP might be universal.

The investigation of the quantity condition on the telic compositionality in English, i.e., the second condition in Borer (2005), brought us to the conclusion that despite the different modes of merging of Asp_QP, there is only two ways in which a verbal predicate can acquire its [quantity] feature in English: (1) non-compositionally, from the lexicon, or (2) compositionally, indirectly from the quantity DP in [Spec, Asp_QP] via spec-head agreement. In the chapters on Russian, we will see that Russian also has two different modes of assigning the [quantity] feature to Asp_Q^o: (1) non-compositionally, from the lexicon, or (2) compositionally, directly from an aspectual morpheme that merges onto Asp_Q^o. We, thus, will arrive at the conclusion that while each language might have access to a universal set of elements that can trigger merger of Asp_QP (quantity DPs, path-goal PPs, or verbal prefixes or particles), it can use only one of the two empirically attested (compositional) telicity assigning mechanisms: direct (as in Russian) or indirect (as in English).[48]

[48] There is a whole issue of how the case of the DP that undergoes the change in the course of an event is affected by the aspectual value of the verbal predicate. Thus, Finnish is a language where the choice between ACC or PART case of the internal argument correlates with verb's telicity. Given time and space limitations, I am forced to leave this without doubt fascinating issue to further research.

The difference between the English and Russian telicity assigning mechanisms will be important in the second half of this dissertation, when we look at the L2 acquisition of Russian inner aspect by English speakers. For now, let me present the phrase structure of English verbs.

2.4. The phrase structure of English aktionsart

To recap, so far we have talked about how verbal predicates are standardly grouped by semanticists into four classes, i.e., states, achievements, accomplishments and activities, depending on whether or not they are dynamic/ non-dynamic and telic/atelic (Vendler 1967, Dowty 1979, Pustejovsky 1991). We also have seen that researchers who advocate a syntactic approach to aspect correlate *dynamicity* with a causative *v*P (or some structural variant of it) and *telicity* with an Asp_QP (or some structural variant of it) (Halle and Keyser 1993, Travis 1994, Borer 2005, Ramchand 2008). In other words, syntacticians working on aspect postulate that dynamic verbal predicates, such as activities and accomplishments, contain a causative *v*P projection in their syntactic structure, while non-dynamic verbal predicates, i.e., states and achievements, lack this projection. When it comes to the inner aspect projections, I essentially adopt Borer's (2005) view, according to which only telic verbal predicates, such as achievements and accomplishments, contain an Asp_QP in their syntactic structure, while atelic verbal predicates, such as states and activities, lack this projection. With these assumptions in mind, let us see the exact structure of English verbal predicates, starting with stative verbs.

2.4.1. States

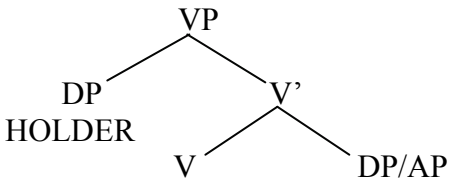
As previously mentioned, stative verbal predicates describe static situations that lack any internal structure, i.e., there is no process or change-of-state involved in the predication.

The non-dynamic nature of states is reflected in their phrase-structure, namely, they lack a causative *v*P projection. Moreover, states, being atelic (44), lack an Asp_QP:

(44) a. Bill believed in Marxism for 20 years/*in 20 years. (from Rothstein 2004)
b. Peter loved Mary for 5 months/*in 5 months.

Consequently, states are simply VPs. The terms such as *non-dynamic* and *atelic*, although useful descriptively, do not have their reflex in syntax:[49]

(45) STATES: *like, love, know, live*



Provided that the VP projection encodes a state, it comes as no surprise that the subject in its specifier position is interpreted as the HOLDER of the state, while the internal argument in its complement position (if present) is not a subject of any subevent but is simply used to further describes the state (Ramchand 2008).

2.4.2. Achievements

A close look at achievements reveals that they generally describe non-dynamic events. Thus, being non-dynamic, they cannot appear in progressive:[50]

(46) a. *Peter is finding the keys.
b. *John is recognizing Kelly.

The non-dynamic nature of achievements signals that they, just like states, lack a causative sub-event, i.e., the little *v*P projection, in their structure.[51] Achievements, however, differ from states in that they contain a change-of-state sub-event, encoded by the predicate BECOME:

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[49] The structure of states permits them, under special circumstances, to be coerced into achievements or activities. For instance, states may become achievements when in the scope of time point adverbials (iv) and they may receive a 'process' interpretation, when in the imperative mood (v):
(iv) a. *At that moment* I knew the answer. (Mittwoch 1988:81)
b. *Once* Lisa understood (grasped) what Henry's intentions were, she lost all interest in him.
(v) Please understand (get the point) that I am trying to help you. (Mourelatoes 1981:196)

[50] Once again, only coerced achievements can occur in progressive.

[51] It is not clear to me whether transitive achievements contain a non-causative *v*P, as suggested by the semantic analysis presented in the section 2.2.2. Interestingly, the subject of achievements is generally interpreted as an Experiencer rather than an Agent. It seems to me that Experiencer still occupies [Spec, Asp_QP], although its exact position is well beyond the scope of this work.

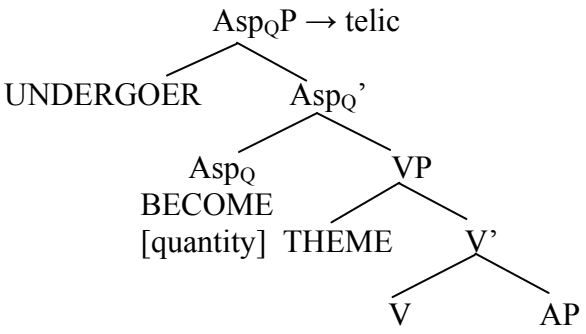
(47) Non-dynamic predicates:

States
λt BE(t, sick(j)) 'John is sick'

Achievements
λt∃t' BECOME (dead(j), t, t') 'John died'

Hence, achievements are minimally Asp_QP, as shown in (48):

(48) ACHIEVEMENTS: *find, recognize*, *die, forget*



Recall that in the analysis proposed here, the Asp_QP projection of achievements can have two different origins. It may be either licensed by lexical information or, in the absence of the latter, by some syntactic information. A language may have two types of achievements: lexical and compositional. As we will see in the chapters dedicated to Russian, the majority of Russian achievements are compositional. English achievements, on the other hand, are in their majority lexical. To reflect the lexical nature of English achievements, in (48) I place the predicate BECOME in Asp_Q^o. Because, in their vast majority, English achievements acquire their [quantity] feature from the lexicon, I do not postulate an agreement relation between the nominal and verbal predicate that holds within the Asp_QP. Note, however, that such an agreement relation is possible for compositional achievements.

Achievements, lacking the process sub-event, do not assert that the change-of-state was brought about by any process. This property of achievements puts them in opposition with accomplishments. Moreover, in the case of achievements, it is often the surface

subject rather than the object that is perceived as the Undergoer, i.e., the argument that undergoes a change-of-state:[52]

(49) John died. = John BECAME dead (not-alive).

This results from the subject occupying the [Spec, Asp_QP]. It is precisely because the [Spec, Asp_QP] of achievements may be filled by the surface subject, these verbs, unlike accomplishments, do not need to be transitive. However, their [Spec, Asp_QP] is never empty, suggesting that they also obey the first part of Verkuyl's generalization in (26a) the more precise version of which should state that telic predicates (both dynamic and non-dynamic) must contain an Undergoer argument.[53]

2.4.3. Activities

Activities, unlike states and achievements, are dynamic predicates. Being dynamic, they can freely appear in progressive:

(50) a. Bill is running.
b. Peter is reading books.

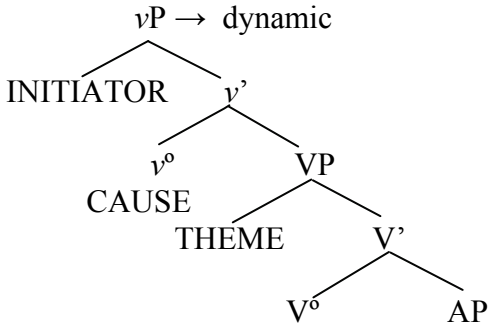
Moreover, activities, just like states, display the behaviour of atelic verbs:

(51) a. Bill ran for 2 hours/*in 2 hours.
b. Peter read books for ½ an hour/*in ½ an hour.

In the system that I assume in this thesis, dynamicity of activities means that they contain a causative *v*P projection in their syntactic structure, while their atelicity reflects the fact that they lack an Asp_QP. Hence, activities are double VPs, as shown in (52):

[52] Note that unaccusative verbs are achievements. In these verbs, the surface subject is underlying object. This once again shows that the Undergoer first merges within the VP and then moves into the [Spec, Asp_QP], just as we assume.
[53] This requirement is quite independent from the second part of Verkuyl's generalization that demands the Undergoer argument to be quantity. Their independence will become obvious when we discuss Russian, a language that, while being faithful to first part of Verkuyl's generalization, does not obey its second part.

(52) ACTIVITIES: *run*, *jump*, *read books*, *fix furniture*



As we have established earlier, the argument occupying the specifier of causative *v*P is interpreted as an Initiator, while the argument in the [Spec, VP] is interpreted as a Theme.

2.4.4. Accomplishments

Accomplishments are complex events consisting of two subevents: a process and transition. Since accomplishments contain a process subevent in their structure, they, unlike achievements, entail that the transition which they describe was brought about by the process. This is certainly true of completive accomplishments:

(53) Peter ate an apple → The apple became eaten as a result of Peter eating it (entirely).

Recall that in the analysis advocated here, the process subevent is encoded by the *v*P projection which renders the verb dynamic, and the transition subevent is encoded by an Asp_QP - the projection that gives rise to the telic interpretation of events. The dynamic nature of accomplishments allows them to appear in the progressive (54), while their telic nature makes them compatible with frame adverbials (55):

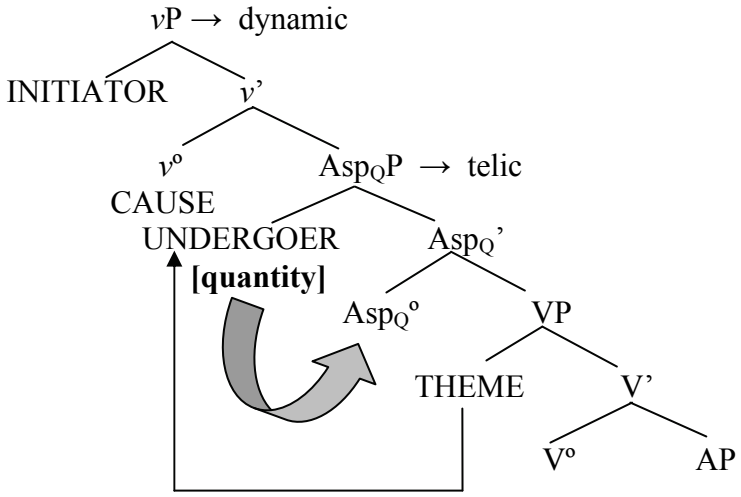
(54) a. Bill was painting the chair.
b. Peter was eating the apples.

(55) a. Bill painted the chair in ½ an hour.[54]

b. John ate the apples in ½ an hour.

To sum up, accomplishments are structurally *v*Ps, which contain an Asp_QP that is 'sandwiched' in between two VPs (Travis 1994, Slabakova 2001). Unlike with English achievements, the telicity value of English accomplishments is not derived from the lexicon but is computed compositionally. In particular, the accomplishment verb acquires its telic value when in Asp_Q^o from a quantity DP in [Spec, Asp_QP], via AGREE which copies the [quantity] feature from the nominal predicate onto the verbal predicate. Hence, a quantity Undergoer argument such as a singular indefinite, definite or overtly quantificational nominal predicate gives rise to a telic *v*P. Importantly, in English the direction of AGREE is 'downwards', from spec-to-head, as shown in (56):[55]

(56) ACCOMPLISHMENTS: *drink a cup of coffee*, *read the books*, *run a mile*



Note that if a non-quantity DP is merged in [Spec, Asp_QP], the derivation crashes, as the open value of the verbal predicate in Asp_Q^o fails to receive its range, as required. Hence, verbal predicates that appear with a non-quantity DP, assume an alternative,

[54] Note that the fact that these verbs are also compatible with durative adverbials does not suggest that they are atelic. It just confirms the observation that durative adverbials are not always incompatible with telic verbs (see section 2.2.3.2.1 for details).

[55] As we will see later on, in Russian the direction of AGREE is 'upwards': from head-to-spec, suggesting that directionality is parameterised.

atelic, structure, i.e., structure that lacks an Asp_QP. That is why they are interpreted as atelic.

2.5. Concluding remarks: English inner aspect

There are several important conclusions to be drawn here. First, the 'verbal' domain (i.e., VP, Asp_QP or *v*P) is a domain that encodes the basic event structure.[56] It is variation in the syntactic structure of this domain that is behind different aktionsart types. If the verbal domain contains the little *v*P projection, we obtain a dynamic verbal predicate (simple or complex), such as an activity or an accomplishment. If, however, it lacks the *v*P, we obtain a non-dynamic verbal predicate, such as a state or achievement. Likewise, if the verbal domain contains the Asp_QP, we obtain a telic verbal predicate (simple or complex), such as an achievement or an accomplishment. If, however, it lacks this projection, we obtain an atelic verbal predicate such as a state or activity. Importantly, the syntactic structure of verbal predicates is directly correlated with the semantic structure of events that these predicates encode in that activities, being *v*Ps, are interpreted as processes; achievements, being Asp_QPs, are interpreted as transitions; and accomplishments, being *v*Ps that contain an Asp_QP, are interpreted as processes that lead to a transition. So, we have a system where the semantics of event structure and of event participants, for that matter, is read directly off the syntactic structure of the verbal domain.

Second, the inner aspect projection, which we along with Borer (2005) termed the Quantity phrase, i.e., Asp_QP, is the projection that gives rise to telicity. For telicity to emerge, the merger of an Asp_QP must be properly licensed. The elements that function as legitimate licensers are quantity DPs, path-goal PPs, or verbal-like 'bits' that are merged directly into Asp_Q^o (i.e., particles or verbal prefixes). However, the Asp_QP is not warranted unless, the open value of the Asp_Q^o acquires a range.

While the range assignment takes place in Asp_QP cross linguistically, its specific mechanism is language-specific. In English the verbal predicate in Asp_Q^o receives its [quantity] feature <u>indirectly</u>, from the nominal predicate in [Spec, Asp_QP] through

[56] Travis (1994) postulates a projection that markes the 'upper' edge of the event domain and binds the event variable. Given time and space limitations, in my dissertation I will remain silent about this projection.

spec-head agreement. As we will see in Chapter 4, in Russian, the verbal predicate receives this feature directly, from the aspectual morpheme that merges onto Asp_Q^o. In either case, the resulting Asp_QP is well-formed, as it contains the [quantity] feature, as required.

If there is no a legitimate assigner, the derivation crashes and the alternative derivation that contains no Asp_QP is chosen. Consequently, dynamic verbs that appear with a non-quantity internal argument or lack an internal argument receive an atelic interpretation. Only verbs with a well-formed Asp_QP are interpreted as telic.

Chapter 3: Theoretical analysis of English outer aspect

Outer aspect encodes information similar to that of inner aspect, namely, the event's temporal boundaries. This makes the task of determining which events involve inner and/or outer aspect extremely difficult.

In an attempt to untangle this complexity, researchers have pointed out a semantic distinction between different types of temporal boundaries encoded by the two aspectual projections. The standard assumption nowadays is that while inner aspect encodes *potential* boundaries of events, outer aspect encodes *actual* boundaries of events (Dahl 1981, Verkuyl 1989, Depraetere 1995, Smith 1997, Slabakova 2001).

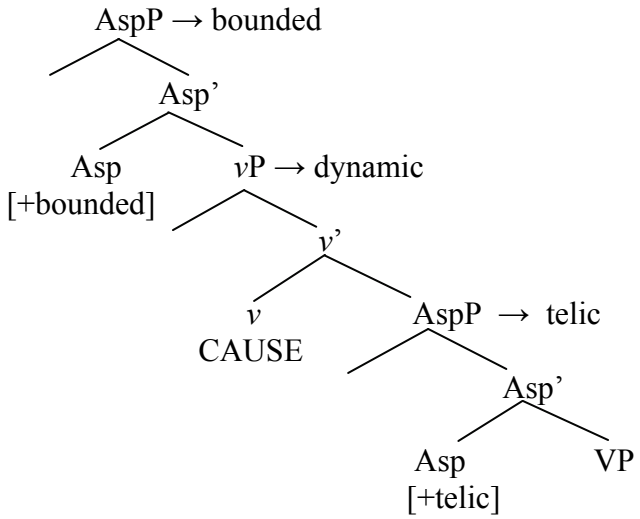
To exemplify how the system correlates the two aspectual projections with the two types of boundaries, consider Slabakova's (2001) analysis of aspect. According to Slabakova, a syntactic structure that contains an inner aspect projection with the [+telic] feature[57] encodes a *telic* event or an event that contains **potential** boundaries in its temporal structure, while a syntactic structure that contains an inner aspect projection with [-telic] feature encodes an *atelic* event or an event that lacks **potential** boundaries in its temporal structure. When it comes to outer aspect, a syntactic structure that contains an outer aspect projection with [+bounded] feature encodes a *bounded* event or an event that contains **actual** boundaries in its temporal structure, while a syntactic structure that contains an outer aspect projection with [-bounded] feature encodes an *unbounded* event or an event that lacks **actual** boundaries in its temporal structure. Importantly, the outer aspect projection can attach only to dynamic stems, containing the *v*P projection. And it is standardly assumed that in English the morpheme carrying the [-bounded] feature is the progressive marker *-ing*.[58]

The combination of the two aspectual projections yields four phrase structures, as shown in (1) to (4), adapted from Slabakova (2001):

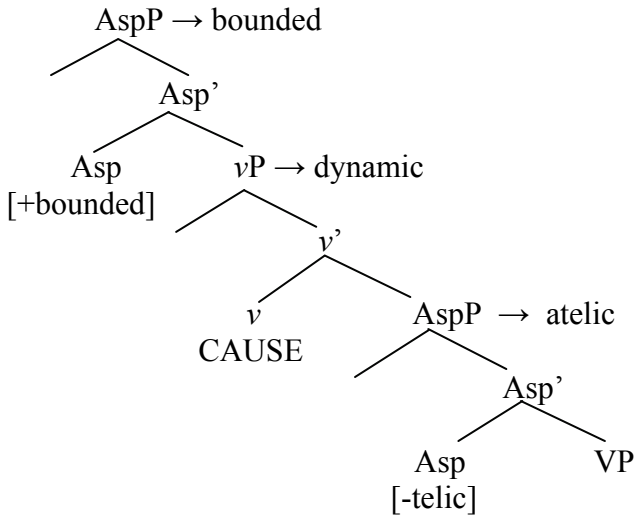
[57] Note that Slabakova's [+telic] corresponds to our [quantity] feature.

[58] Although in this dissertation I will remain silent about the perfect aspect, it should be noted that this aspect is not a manifestation of the outer aspect projection, given that in English there is a perfect progressive form which already contains an outer aspect projection, filled by *-ing*, e.g., *John **has** been think**ing** about the problem.*

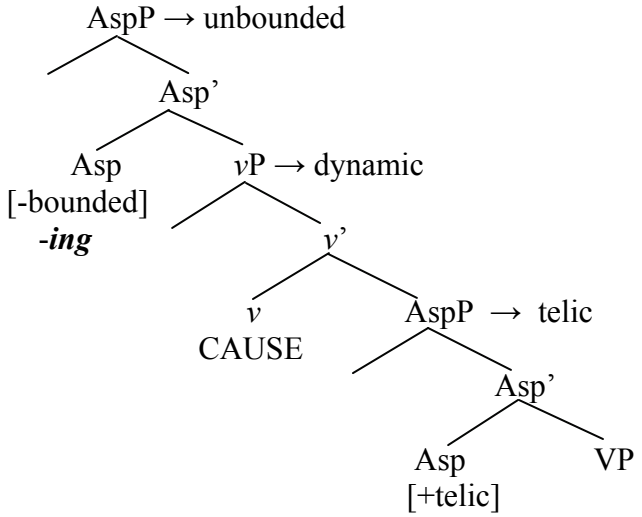
(1) BOUNDED TELIC: simple (tense) accomplishments, e.g., *drink a cup of coffee*, *paint the portraits, run a race.*



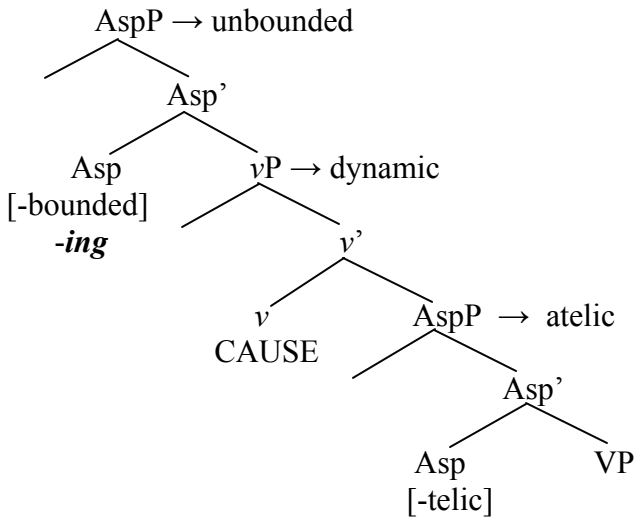
(2) BOUNDED ATELIC: simple (tense) activities, e.g., *ate soup*, *read books.*



(3) UNBOUNDED TELIC: progressive accomplishments, e.g., *drinking a cup of coffee*, *painting the portraits*



(4) UNBOUNDED ATELIC: progressive activities e.g., *eating soup*, *reading books*



While the analysis advocated in this dissertation resembles that of Slabakova (2001), it differs from it in an important way. Recall that in the system that I adopt in this thesis, the inner aspect projection syntactically encodes only telic, not atelic, events. And as I will claim in this chapter, the outer aspect projection syntactically encodes only unbounded, not bounded, events. To put it differently, I will argue that there is no [+bounded] feature, just as there is no [-telic] feature. Just as *atelicity* results from the absence of *telicity* (i.e., of an Asp_QP), so *boundedness* results from the absence of

unboundedness (i.e., of an outer AspP). This means that a delimited (in time) interpretation, which does not follow from *telicity*, is not a manifestation of the outer AspP but rather of other, syntactic or non-syntactic, elements. As a result of my modifications of Slabakova's analysis, I will reject the structures in (1) and (2) and assume no inner aspect projection in (4).

To defend the claim that [+bounded] feature does not exist let me discuss in more detail the difference between (a)telicity and (un)boundedness.

3.1. (A)telicity versus (un)boundedness

Unfortunately, simply distinguishing the information encoded by inner and outer aspect in terms of different types of boundaries does not answer the question of which information is syntactically encoded by outer aspect. To clarify why this is so, consider Slabakova's (2001) analysis from a different angle. From the semantic perspective, both [+telic] and [+bounded] features encode events **delimited** in time, i.e., events that contain boundaries in their temporal structure, while both [-telic] and [-bounded] features encode events **unlimited** in time, i.e., events that lack boundaries in their temporal structure. In other words, in Slabakova's system, both [±telic] and [±bounded] syntactically encode the same temporal information. Verkuyl (1989), noticing this similarity between [±telic] and [±bounded], concludes that inner and outer aspect are composed of the "same ingredients" but at different levels of clause structure.

From the syntactic perspective, the intuition that temporal boundaries encoded by [±bounded] feature are perceived as 'actual' in comparison to temporal boundaries encoded by [±telic] feature comes from the observation that it is a structurally higher aspectual projection that determines the global aspectuality of a given event. Consider, for example, progressive accomplishments, e.g., *eat**ing** an apple*, *build**ing** the house*. Despite the fact that these events contain an inner aspect projection (with [+telic] feature) that signals their delimited (in time) nature, they also contain a structurally higher outer aspect projection with an [-unbounded] feature that signals their unlimited (in time) nature. Given that it is the higher aspectual projection that wins what we can call 'the aspectual competition', progressive accomplishments are interpreted as unbounded in time.

Because progressive accomplishments describe unlimited (in time) events, they do not entail completion, despite their underlying telicity. This phenomenon is known as the *Imperfective paradox*. Intriguingly, although progressive accomplishments do not entail completion, they are compatible with situations that are completed in the real world. Thus, from the statement *When I saw John, he was eating an apple* we do not know whether John completed eating *an apple*. However, in the absence of the information that signals any interruption of the event, we may assume that John's *eating an apple* was completed successfully. This observation suggests that at least the unbounded (in time) value of an event does not need to coincide with the aspectuality of this event in the real world. While the event may be delimited (in time) in the real world, the speaker may choose not to encode this information, while talking about this event. Noticing this peculiarity of progressive aspect, Parson (1990) argues that progressive does not care what aspectual value the ongoing event it encodes has in the real world. It simply encodes "the while story" (Parson 1990:170) and is silent about the scenario that would have happened if the ongoing event it encodes were uninterrupted. This suggests that what has been claimed to be 'actual boundaries of outer aspect' cannot be equated with the temporal boundaries that exist in the real world. The term *actual* is, thus, unfortunate. To avoid confusion related to terminology, I will refer to events have a final boundary in the real world or entail such a boundary (in the case of the future tense) as *delimited* events and events that lack such a boundary as *unlimited* events.[59] In a way *delimitedness* is a semantico-pragmatic term rather than a syntactic one. From this perspective, it contrasts with the term *telicity* that refers to a specific syntactic configuration, namely that which contains an inner aspect projection. Just as telicity is a syntactic notion, so is *unboundedness*. As we will see shortly, this term refers to a syntactic configuration that contains an outer aspect projection.

While it is relatively easy to demonstrate that *unboundedness* is a purely syntactic notion, it is much harder to show why *boundedness* is not. In the next section, I will argue that, once we reject the empirically unsupported assumption according to which

[59] Technically, a delimited event is an event that contains both an initial and final boundary. Contra Smith (1997), I assume that, unless specified overtly (as in the case of inceptive and delimitative events in Russian), the initial boundary of dynamic events is supplied by world knowledge (as in our world each event has a beginning), rather than by any syntactic means.

(un)boundedness correlates with real-world boundaries, it is possible to show that delimited events do not contain an outer AspP with [+bounded] feature. In fact, there is no morpho-syntactic [+bounded] feature associated with the outer AspP to begin with.

3.2. 'Bounded' or delimited (in time) events

In this section we will examine events that have been termed *bounded* in the literature. Putting perfect verbs aside, in Depraetere (1995), where she explicitly argues for the necessity of distinguishing between (un)boundedness and (a)telicity, only events that have a final boundary in the real world are labelled as *bounded*. To illustrate, I list below prototypical examples of her bounded events, whether telic, atelic or iterative:

(5) a. John opened the parcel. ***bounded***, ***telic***
b. I ate several apples. ***bounded***, ***telic***
c. The petrol leaked out of the tank. ***bounded***, ***telic***
d. Ten firecrackers exploded. ***bounded***, ***telic***

(6) a. Judith played in the garden for an hour. ***bounded***, ***atelic***
b. Julian lived in Paris from 1979 until May 1980. ***bounded***, ***atelic***
c. John went to London 5 times.[60] ***bounded***, ***iterative***

The same is true in Slabakova's (2001) analysis: it is the presence of a real world boundary that is correlated with boundedness.

However, as discussed in the previous section, syntactic *boundedness* does not need to coincide with the *boundedness* that an event has in the real world. The syntax encodes only those parts of real-world temporal structure which the speaker decides to express. When encoding the event syntactically, the speaker may choose to omit the real-world final boundary. The resulting event will then be pragmatically bounded, but syntactically unbounded in time. Once again, to avoid terminological confusion, I will call pragmatically bounded events *delimited* and syntactically bounded events *bounded*.

Let us have a closer look at events that receive a delimited interpretation.

[60] Bach (1981) claims that frequency adverbials such as *5 times* take telic predicates as an input and reiterate them the number of times specified by the adverbial, i.e., 5 times in our example. They, thus, measure out the iteration of telic events, just as durative adverbials measure out the duration of homogeneous events.

3.2.1. Telic events

Telic events are commonly interpreted as delimited in the real world, see (5). Let us determine why and when telic events are interpreted as delimited (in time). This step is especially important in the system advocated in this dissertation where telic events are not correlated with the presence of a final boundary but rather with the presence of a change-of-state in their structure.

There are at least two sorts of changes-of-state: an inceptive-like and a completive-like. An *inceptive* change-of-state is defined as the change-of-state that coincides with the initial boundary of an event.[61] Despite this somewhat misleading definition, the inceptive change-of-state in itself is a near-instantaneous achievement-like event independent of the event whose initial boundary it specifies. For instance, in *start reading* event, *start* specifies the point in time when the event of *reading* began; yet, by itself, it is a near-instantaneous event distinct from the *reading* event.[62]

The important observation relevant to our discussion is that being near-instantaneous inceptive events are delimited in time by definition. Thus, if the *starting* (of reading) event occurred in the past, it cannot continue into the present, given that it lacks any duration. In contrast, the *reading* event that occurred in the past may, in principle, continue into the present. Because inceptive verbs entail an unlimited process or state, their delimitedness can be masked. Hence, one has to be cautious when analyzing inceptive achievements, which, despite their telic nature, may be misperceived as unlimited in time.

In contrast, a *completive* change-of-state is the change-of-state that coincides with the final boundary of a process/state. This process/state may be part of the same event

[61] We will extensively discuss inceptive-like changes-of-state when we examine Russian inceptive verbs (see Chapter 4).

[62] This is true in both English and Russian. There is a theoretical explanation why the event that inceptive verbs entail is not part of their structure. It comes from the assumption postulated on empirical grounds according to which subevents of a given event are temporally ordered and this ordering is structurally encoded (Pustejovsky 1991), e.g., since accomplishments encode a process that leads to a change-of-state, the *v*P projection which encodes a process subpart is merged above the Asp_QP which encodes a change-of-state subevent. If inceptive events contained, let us say, a process subpart in addition to the change-of-state subpart, then the inceptive morphemes that encode the beginning of this process would have to occupy an aspectual projection above the projection that encodes the process subevent, i.e., above the *v*P. However, no position exists above the *v*P that can encode a change-of-state that is the part of the event described by the *v*P. Note that the 'existence' of a language where inceptive verbs are indeed durative would prove the Pustejovsky's assumption about temporal ordering of subevent wrong. The accuracy of this assumption is an empirical question that requires extensive research.

with the change-of-state, e.g., *eat an apple* = the apple was consumed as a result of *eating*, or may be an independent instantaneous event, e.g., *finish reading* = *finish* specifies the point in time when the *reading* event – an event distinct from the *finishing* event – was completed, *found the key* = *found* specifies the point in time when the keys were found as result of a separate event of *looking for* them. The change-of-state point might be well-defined, as in the examples above, or arbitrary, e.g., *the boy grew tall* = the boy became tall as a result of *growing*, where the notion of *tall* is an arbitrary, not necessarily agreed upon, notion.

Because completive changes-of-state 'measure out' a state or process, events that contain a completive change-of-state are perceived as delimited in time, given our definition of delimited events. Interestingly, telic completive events entail completion, even when occurring in the future.

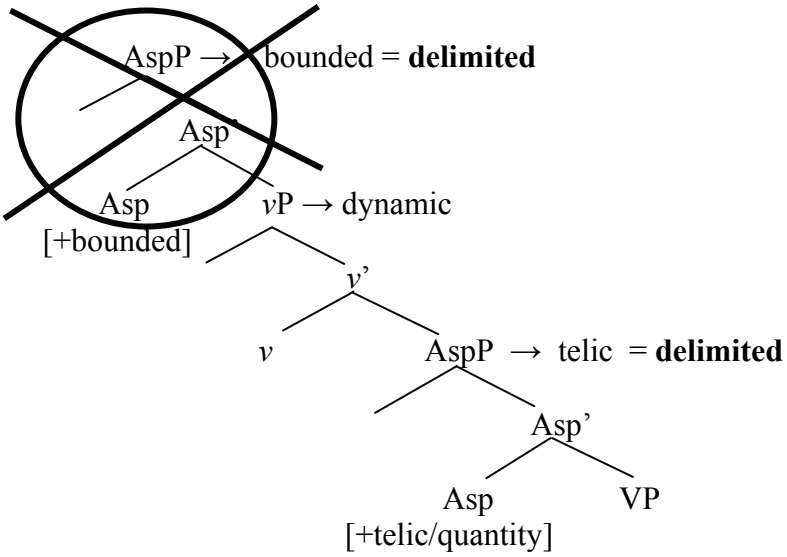
(7) a. John ate an apple. → John completed the event of eating an apple.

b. John will eat an apple. → John will complete the event of eating an apple.

In other words, a dynamic telic event – an event encoded by a *v*P that contains the Asp_QP and lacks the outer AspP filled by *-ing* – is obligatorily interpreted as delimited in time, regardless of whether its final boundary has already been reached in the real world or simply assumed to be reached in the future.

Given that telicity in dynamic verbs entails delimitedness, one does not need to postulate the presence of an outer AspP filled by the [+bounded] feature in order to explain a delimitative interpretation of (simple) accomplishments. Thus, in (1), the outer aspect projection, providing the same information as the inner aspect projection, is redundant. To accommodate this claim, let us remove the outer AspP from the structure in (1), repeated in (8). Keep in mind that telic predicates are never *bounded* in the syntactic sense of this term. They are simply interpreted as delimited in time.

(8) (SIMPLE TENSE) ACCOMPLISHMENTS or ~~BOUNDED~~ DYNAMIC TELIC EVENTS: *drink a cup of coffee*, *paint the portraits, run a race.*[63]



So far we have established that dynamic telic events always receive a delimited (in time) interpretation, rendering the theoretical necessity of a [+bounded] feature obsolete. How about dynamic atelic events? Can they ever receive a delimited interpretation and, if yes, do they contain an outer aspect projection with a [+bounded] feature in their phrase structure, as depicted in (2)? To justify the existence of such a structure we must analyze delimited atelic events and show that the elements responsible for their delimited interpretation indeed license an outer aspect projection. With that goal in mind, let us examine cases of delimitedness that do not result from telicity.

3.2.2. Non-telic events

Apart from Asp_QP, there are other grammatical elements that can measure out an unlimited event, making it delimited in time. Let us consider the most common elements that can change an otherwise unlimited interpretation of an event.

[63] Note that this structure is exactly the same as the one we postulated in section 2.4.4.

3.2.2.1. Durative adverbials and phase verbs as delimiters

Durative adverbials are known for their ability to measure out otherwise unlimited events. Consider, for instance, atelic events such as states and activities. Because these events do not contain any change-of-state, no reference can be made to their final boundaries and they are, thus, interpreted as unlimited in time: [64]

(9) a. Peter will work in his office. ***unlimited*** (*activity*)
b. Susan will live in Paris. ***unlimited*** (*state*)

However, both states and activities receive a delimited interpretation, when appearing with durative adverbials of *for X-time* type or of *from X-time to Y-time* types, for these adverbials supply these unlimited events with time boundaries, especially with the final one:

(10) a. Peter will work in his office for 2 hours. ***delimited*** (*activity*)
b. Susan will live in Paris for 3 years. ***delimited*** (*state*)

(11) a. Peter will work in his office from 9:00 a.m. to 5 p.m. ***delimited*** (*activity*)
b. Susan will live in Paris from June 2009 until July 2012. ***delimited*** (*state*)

In (9) both events are interpreted as unlimited in time and as such can go on indefinitely, at least hypothetically. This is not so in (10) and (11), where the adverbials delimit the event to the period of time they specify.

Interestingly, in order to obtain a delimited interpretation it is enough to specify its final boundary:

(12) a. Peter will work in his office until 5:00 p.m. ***delimited*** (*activity*)
b. Susan will live in Paris until July 2012. ***delimited*** (*state*)

The final boundary may also be supplied by a 'phase' verb that describes the end-point of an event. Hence, one can obtain a delimited event by adding such a phase verb to an atelic predicate:

[64] From Slabakova's (2001) analysis of dynamic atelic verbs, it follows that non-progressive simple activities can never receive an unlimited (in time) interpretation. This prediction turns out to be empirically false, as demonstrated by the data in (9).

(13) a. Peter will finish working. ***delimited*** (*activity*)
b. Susan will stop living in Paris. ***delimited*** (*state*)

The data in (12) and (13) confirm our intuition that to obtain a delimited event, it is enough to provide it with the final boundary. The question that I would like to address next is whether it is indeed true that the events in (10)-(13) receive a delimited interpretation because they contain an outer aspect projection with [+bounded] feature.

Note that the phase verbs *finish* and *stop* in (13) encode near-instantaneous changes-of-state distinct from the *working* and *living* events. This observation implies that both *finish* and *stop* occupy their own Asp_QP, given our analysis of changes-of-state.

Unlike phase verbs, durational adverbials in (10)-(12) are not related to the Asp_QP. Instead of providing an event with a change-of-state, they can have the opposite effect. Thus, when occurring with telic predicates, they usually 'remove' the change-of-state point of these events, yielding a delimited event that does not entail completion. For instance, the events in (14a) and (14b) do not entail completion, despite the fact that they are underlyingly telic (as they contain a quantity DP).

(14) a. Peter ate the apple for 2 minutes. ***delimited***
b. Susan will paint the barn for 1 hour. ***delimited***

In (14a), the adverbial specifies the duration of *Peter's eating the apple*. While the event is perceived as terminated at the ST, it does not need to be completed. Thus, it might well be that Peter did not eat the entire apple. Hence, the sentence in (14a) does not entail completion. The same is true for the sentence in (14b). This sentence too, while being delimited, does not entail completion. Note that without the adverbial, the same sentences do entail completion, i.e., *Peter ate the apple* entails that he ate the entire apple and *Susan will paint the barn* entails that she will paint the entire barn, unless the event is coerced.

Hence, a durative adverbial not only provides a dynamic event with specific time boundaries but also 'cuts off' the change-of-state point that is part of the basic structure of the event (i.e., it ignores the information encoded by the Asp_QP). This 'cutting off' effect is inevitable, as there is no way to make the temporal boundaries that the adverbial

introduces coincide with the original duration of dynamic telic events (including the point in time when the change-of-state occurs), given that their duration is unspecified.[65] Because the final boundary provided by the adverbial does not coincide with the change-of-state point, we can conclude that this boundary is not encoded by an Asp_QP. The question is whether it is encoded by the outer AspP. The answer to this question is no.

To get to this answer, notice first that not only are durative adverbials able to change the unlimited interpretation of atelic events, but also they can alter the unlimited interpretation of events that already contain an outer aspect projection, i.e., of unbounded events:

(15) a. Peter will be working in his office. ***unlimited***

b. Peter will be work**ing** in his office from 2:00 p.m. until 5:00 p.m. ***delimited***

The data in (15b) demonstrate that durative adverbials cannot be associated with the outer aspect projection, given that this projection is already occupied by *-ing*. To accommodate these data I assume that durative adverbials are syntactic elements that trigger coercion. As a result, they change the unlimited interpretation of these events without licensing the outer AspP in the syntax.[66] Similarly, phase verbs, being the species of inner aspect, do not trigger the projection of the outer AspP.

Another element that is known to affect the overall interpretation of events is tense. Let us examine first in what manner the past tense influences the temporal interpretation of events. We will turn to interaction between aspect and the present tense after we discuss unbounded events, since it has been claimed that the present tense makes non-stative events 'unbounded' in time (Depraetere 1995).

[65] Although the sentences in (14) do not entail completion, they are compatible with a completive interpretation. Thus, the events in (14) are interpreted as completed if the boundaries introduced by the adverbial coincide with the time during which the event unfolds (including its change-of-state) in the real world. In particular, for the events in (14) to be completed in the real world it should take Peter 2 minutes to finish eating the entire apple and it should take Susan 1 hour to paint the entire barn.

[66] Whether or not they cause a post-syntactic restructuring is a question that I leave unanswered in this dissertation.

3.2.2.2. Past tense as delimiter

From our analysis of atelic events we know that since they lack a change-of-state that can identify their final boundary, they standardly receive an unlimited interpretation. This is exactly what we find in the case of future atelic events. In particular, in contrast with future telic events, future atelic events, not entailing any completion or termination, are interpreted as unlimited in time:

(16) a. Susan will sing. ***unlimited***, ***atelic***
b. Susan will sing a song. ***delimited***, ***telic***

While the sentence in (16b) entails that Susan will stop singing once the song she is singing is over, the sentence in (16a) does not entail any completion or termination. Here the *singing* event can go on indefinitely, at least hypothetically.

However, when it comes to past atelic events, the picture is quite different, given that these events are compatible with two real-world scenarios. Either they can be terminated by the speech time or may continue into the present. In other words, unlike future atelic events, past atelic events are ambiguous between delimited and unlimited interpretations:[67]

(17) a. Jennifer knew Turkish and she still knows it. (from Smith 1997) ***unlimited***, ***atelic***
b. Jennifer knew Turkish but she has forgotten it all. ***delimited***, ***atelic***
c. ½ an hour ago Susan sang and is still singing even now. ***unlimited***, ***atelic***
d. ½ an hour ago Susan sang. ***delimited***, ***atelic***

This being said, note that if in (17a) and (17c) we did not have the clause that explicitly specifies the continuation of the atelic event (i.e., the underlined clause), we would most likely judged the atelic events as terminated (by the speech time), just as we do with (17d). This is because the listener, obeying Gricean maxims, assumes that if the event were not terminated, the speaker would explicitly indicate this information, as is done in (17a) and (17c).

[67] Interestingly, while Depraetere (1995) classifies past activities as unbounded, Slabakova (2001) considers them to be bounded. This, once again, points to their interpretational ambiguity.

The fact that atelic events acquire a delimited interpretation in the past but not in the future suggests that it is the past tense that is responsible for the delimited interpretation of these events. Let us see why.

Tense is standardly taken to locate an event in time (Comrie 1985, Hornstein 1990). That is to say the TP encodes the relation between the speech time (ST) and the event time (i.e., the time during which the event occurred) (ET). From this perspective, the past tense places the ET prior to the ST along the time axis. [68]

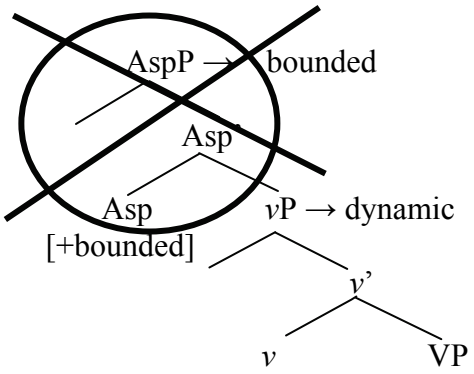
Because atelic events are unlimited in time they can, technically, continue into the present. If so, we obtain a so-called *extended now* interpretation of atelic events. Apart from this interpretation, atelic events can be interpreted as terminated by the ST. In this case, it is the ST that in a way 'binds' an atelic event, as this event is evaluated as appearing *prior to* the ST: ET_ST. As a result, the event is perceived as terminated.

Importantly, our analysis of past atelic events shows that these events do not contain an outer aspect projection filled by [+bounded]. If they did, we would expect them to always receive a delimited interpretation, regardless of the tense they occur in. This prediction is not borne out, given that these verbs can be interpreted as unlimited in both the future and the past.

To recap, in this section we have established that all instances of delimited atelic events, whether they are delimited by durative adverbials, phase verbs or past tense, do not contain an outer aspect projection filled by [+bounded] in their syntactic structure. To accommodate these findings, let us remove the outer aspect projection from Slabakova's (2001) structure of 'bounded' atelic events, as in (18):

[68] Contra Reichenbach (1947) and his followers, I assume that to interpret simple tense it is enough to use ST and ET time coordinates. In other words, the third of Reichenbach's time coordinates – the Reference time (RT) – is not necessary to interpret simple tense in English, given that no evidence can be found to justify its need (in the case of the simple tense). This intuition is also shared by Stowell (1996), who arrives at it from the perspective of tense rather than aspect. He writes: "Although Reichenbach's formalism succeeds in distinguishing the simple past from the present and past perfect, one could capture the same distinctions by eliminating RT from the semantic representation of the simple past, treating it simply as ET_ST. Similar remarks hold for the simple present, which could be characterized as ET,ST (i.e. as a predicate indicating simultaneity of ET and ST)" (from Stowell http://www.linguistics.ucla.edu/people/stowell/PSIND.htm1). And we can add to this statement that the simple future has ET after ST: ST_ET.

(18) (SIMPLE TENSE) ACTIVITIES or ~~BOUNDED~~ DYNAMIC (ATELIC) EVENTS: *eat soup*, *read books, run.*[69]



The fact that activities do not contain an outer aspect projection with the [+bounded] feature means that they, along with accomplishments, cannot be described as *bounded* in the syntactic sense of this term. They can simply receive a delimited interpretation, under special circumstances, i.e., when occurring with durative adverbials, phase verbs describing an event's end-point or past tense. Otherwise, they are interpreted as unlimited in time.

Overall, our examination of events that receive a delimited interpretation has brought us to the conclusion that this interpretation is not a manifestation of the [+bounded] feature that occupies the outer aspect projection as claimed by Slabakova (2001). Since no evidence could be found for the existence of a morpho-syntactic [+bounded] feature associated with the outer aspect projection, in the rest of this dissertation I assume that the outer aspect projection is linked to the univalent [unbounded] feature, just as the inner aspect projection is associated with the univalent [quantity] feature.[70]

[69] As we can see from the phrase structure of activities, technically they are merely *dynamic* events. Nonetheless, we will use the term *atelic* descriptively, to distinguish activities from accomplishments, which are also *dynamic* (plus *telic*) events. Once again an *atelic* event is an event that lacks an Asp_QP in its syntactic structure. Similarly, we will use the non-structural term *non-dynamic* for events that lack a *v*P in their syntactic structure. In the rest of this dissertation, I will include such descriptive terms in parenthesis, when referring to a specific phrase structure.

[70] In Russian, just like in English, there is no [+bounded] feature, suggesting that [unbounded] may be univalent cross-linguistically. Of course the validity of this claim requires an extensive cross-linguistic research which is beyond the scope of this dissertation.

Up to this point we have looked at events that receive a delimited interpretation in the real world. Let us next discuss the events that receive an unlimited interpretation, including syntactically unbounded events.

3.3. Unlimited (in time) events

In this section we will examine the two types of events that can receive an unlimited interpretation: atelic events, or events that lack both the inner and outer aspect projection, and unbounded events, or events that contain an outer aspect projection. Let us turn first to atelic events.

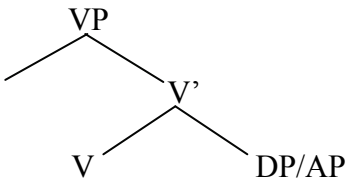
3.3.1. Atelic events

As has been mentioned earlier, since atelic events lack a change-of-state that can function as a 'delimiter', they are standardly interpreted as unlimited in time, unless occurring with durative adverbials or phase verbs that encode their end-point or with the past tense:

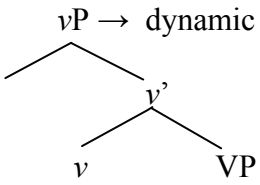
(19) a. Peter will work in his office. ***unlimited*** (*activity*)
b. Susan will live in Paris. ***unlimited*** (*state*)

Hence, to receive an unlimited interpretation, states and non-progressive activities do not need to contain an outer aspect projection. They are simply encoded by a verbal domain: a VP and *v*P respectively. Their unlimited interpretation results from their 'aspectless' structure:

(20) STATES or (NON-DYNAMIC ATELIC EVENTS): *like*, *love*, *know*, *live*.



(21) ACTIVITIES or DYNAMIC (ATELIC) EVENTS: *run*, *jump*, *read books*, *fix furniture.*



While atelic verbs do not need to take an outer aspect projection in order to acquire an unlimited interpretation, telic verbs certainly do. Let us turn to the examination of such unbounded events.

3.3.2. Unbounded events

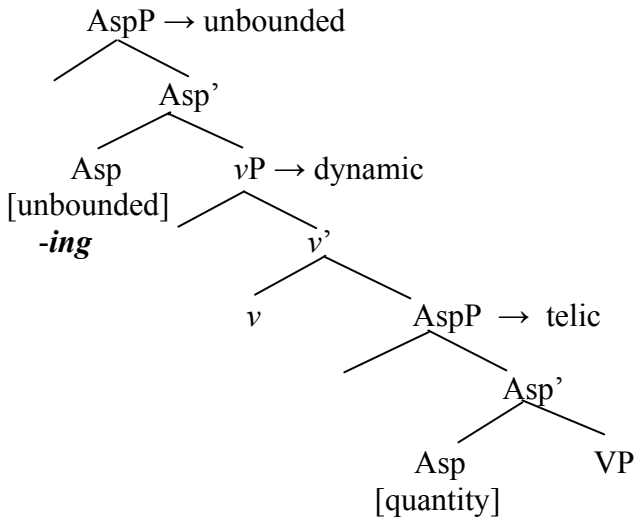
In the system advocated in this dissertation, unbounded events are events that contain an outer aspect projection associated with the univalent [unbounded] feature. There are two readings that a syntactically unbounded event may acquire. It can be interpreted as an unlimited in time single event or as an unlimited-in-time sequence of recurring events. The former interpretation is known as single/episodic/ongoing event reading and the latter as habitual/iterative reading. Let us look at each of these interpretations in its turn.

3.3.2.1. Single event reading of syntactically unbounded events

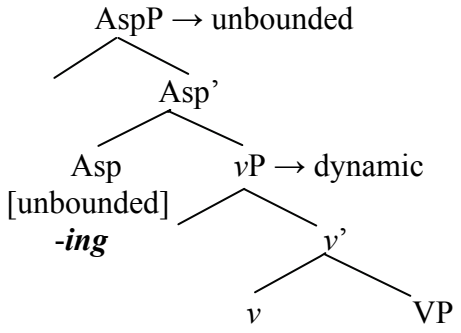
In English, morphological forms inflected with the progressive suffix *-ing* receive a single/episodic/ongoing event reading as a default. This morpheme is standardly associated with the outer aspect projection filled with the [unbounded] feature (Smith 1997, Slabakova 2001 among others). As we have already seen, *-ing* can only attach to dynamic verbs, either telic or atelic. In the first case, we obtain progressive accomplishments and in the second progressive activities:[71]

[71] The term *progressive* is often used to refer to two things: either to verbal forms that carry the morpheme *-ing*, or to an ongoing event reading of these forms. As we will see later, verbal forms inflected with *-ing* can also have a habitual reading. Hence, the second use of this term is inaccurate. Note that in this dissertation, I limit this term to a morpho-syntactic configuration that contains an outer aspect projection filled with *-ing*.

(22) PROGRESSIVE ACCOMPLISHMENTS or UNBOUNDED DYNAMIC TELIC EVENTS: *drinking a cup of coffee*, *painting the portraits*



(23) PROGRESSIVE ACTIVITIES or UNBOUNDED DYNAMIC (ATELIC) EVENTS: *eating soup*, *reading books*



The effect of adding an outer aspect projection filled with *-ing* to a telic *v*P is that the resulting single event is interpreted as unbounded in time and, as such, does not entail completion, despite its 'underlying' telicity. To explain this phenomenon, Smith (1997) postulates a principle of *External override*, according to which the unboundedness of *-ing* overrides the telicity of *v*P. Similarly, Kratzer (2004) assumes that progressive "neutralizes the quantity criterion", or "culmination condition", of a telic predicate, when it takes scope over it. Recall that the failure of unbounded telic events to entail completion is known as the *Imperfective paradox*. To demonstrate this paradox, consider the following example:

(24) a. Peter ate the apple. → Peter ate the entire apple. ***telic***

b. Peter was eat**ing** the apple./→ Peter ate the entire apple. ***unbounded***

Thus, while the telic event in (24a) entails completion, its progressive counterpart does not. In (24b) but not in (24a), the event of Peter eating an apple may continue into the present. Note that since the event encoded by (24b) may but does not have to continue into the present it can be either unlimited or delimited in the real world. The actual/real-world aspectual value of the event is not encoded by the sentence, however. The sentence simply describes the event in progress. It is precisely because the syntax marks the verb in (24b) as *unbounded* and because the [unbounded] feature syntactically dominates the verb's [quantity] feature, the sentence in (24b) receives an ongoing event interpretation and does not entail completion.

When it comes to episodic events, not only does the progressive *-ing* 'change' the aspectual value of the underlyingly telic verbal predicate, by supplying it with the [unbounded] feature, it also 'changes' the aspectual value of its Undergoer argument. Recall that we have established that the Undergoer of telic verbal predicates is always quantity. But with progressive episodic events, this argument is interpreted as unbounded in space – it receives a partial interpretation, as oppose to a total one.

(25) a. Peter was eating the apples.

b. The water was rushing out the faucet. (from Jackendoff 1990:101)

c. The people were streaming into the room.

The sentence (25a) does not provide the information about the quantity of apples that Peter ate. Similarly, the sentences (25b) and (25c) do not specify the quantity of water that rushed out of the faucet and the number of people that got to the room as a result of the *streaming* event. In other words, the DPs *the apples*, *the water* and *the people* are interpreted as unbounded, despite the fact that they appear with the definite article. Instead of referring to the specified (in the discourse) quantity of 'noun stuff', being *apples*, *water* and *people* respectively, they refer to some, non-empty part(s) of these quantities:

(26) Peter was eat**ing** the apples. → Peter ate some (parts) of the apples.

In other words, with progressive episodic events, the definite article *the* loses its quantificational function and simply retains its deictic function (Jackendoff 1990). Rather than delimiting the noun referent (in space), it simply identifies it. As a result, a definite DP that occurs with a progressive verb which is interpreted as a single event receives an *unbounded*/partial interpretation as in (26) rather than a *quantity*/total one as in (27). In a way, this can be thought of as of progressive overriding the quantity value of the Undergoer[72], just as it overrides the underlying quantity/telic value of the verbal predicate.[73]

(27) Peter was eat**ing** the apple. /→ Peter ate (all of) the apple.

The same applies to other overtly quantized DPs: they all obligatorily receive an unbounded interpretation when appearing with progressive single events. To demonstrate consider the data in (28), where only DPs that can be changed into non-quantity are compatible with progressive:

(28) a. Peter was eat**ing** two apples. #sequential /√simultaneous
b. Peter was eat**ing** #the whole cake.

Despite the fact that the cardinal DP *two apples* in (86a) is clearly delimited in the real world, this information seems to be overridden by syntax, given that *two apples* loses its quantity sequential reading. In place of encoding the nominal predicate's spatial boundaries, the cardinal DP simply encodes the mass-like internal structure of this predicate[74], only allowing for a simultaneous interpretation (Mittwoch 1988). Because the quantity DP *the whole cake* in (28b) cannot preserve its meaning under a mass-like partial interpretation, it is incompatible with an episodic progressive event.

[72] By overriding the quantity value of the Undergoes or, alternatively, 'removing' its spatial boundaries, progressive makes the affected part of the Undergoer unknown, yielding its partial reading. To make parallel with verbal predicates, I call this reading of DPs unbounded.
[73] Filip (2000), following Bennett and Partee's (1972), Bach's (1986), Krifka's (1992) insights, proposes to view a semantic operator *progressive* in terms of the relation '<' (a strict partial ordering). Because the progressive operator relates episodic eventualities to their (proper) parts, it yields a partial reading of both the event and the Undergoer argument.
[74] This behaviour of nominal predicates is similar to progressive accomplishments (on their single event reading) which, instead of encoding event's boundaries, encode its process like 'internal' structure.

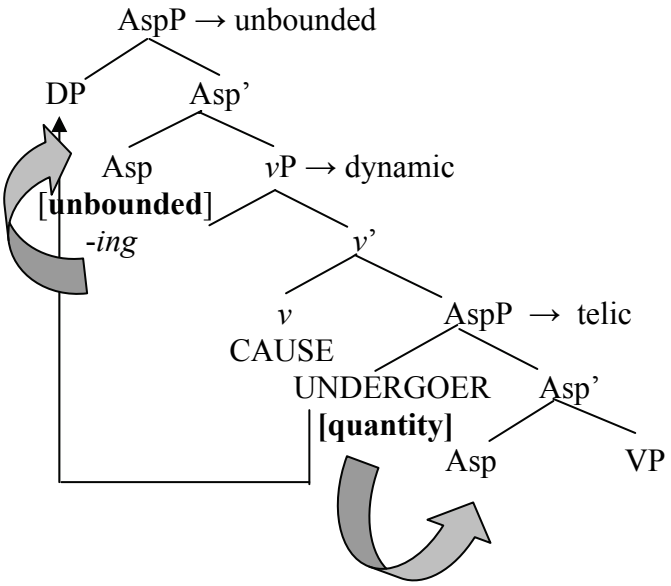
The fact that the internal argument of a progressive verb that receives a single event interpretation is obligatorily unbounded suggests that unboundedness is encoded by syntax not only in the case of verbal, but also nominal predicates. Although the exact syntactic structure of nominal predicates is outside the scope of this dissertation, note that, unboundedness, either of verbal or of nominal predicates, does not reflect the real world boundaries of these predicates. In fact, just as unbounded quantity *v*Ps do not entail completion (i.e., a quantity interpretation), but are compatible with situations that are completed in the real world (at the time of speech), so unbounded quantity DPs do not entail a quantity interpretation, but are compatible with situations where they refer to quantity nominals in the real world. For instance, although the sentence in (26) simply entails that Peter ate some parts of the apples specified in the discourse, it may be that in reality he ate all of them. Such a scenario will arise if Peter eats all parts of these apples. Nonetheless, this possible real-world situation is not linguistically encoded by the sentence in (26). All that the outer aspect is concerned with is the predicate's internal structure and not its boundaries. This is precisely why with episodic progressives, a quantity Undergoer argument, e.g., a definite DP or a cardinal DP, specifies the internal parts of its referent noun, excluding its boundaries (specified by *the* or *two* in (26)-(28)).

The question that we must answer next is what forces a DP that appears with the progressive, especially a quantity DP, to be interpreted as unbounded? Note that the only element that can endow a quantity DP with the [unbounded] feature is the unbounded verbal predicate inflected with *-ing*.[75] If so, it must be that *-ing* transmits this feature to the DP through an agreement relation that holds between the verbal predicate in Asp^{o} and the nominal predicate in [Spec, AspP], as shown in (29):[76]

[75] In a purely structural analysis, *-ing*, instead of reversing or overriding the quantity feature of a DP, should licence a syntactically higher aspectual projections that can render a DP unbounded. Once again, I leave the exact 'aspectual' structure of nominal predicates to further research.

[76] Note that I postulate movement based purely on the interpretation of the DPs. Given time and space limitations, I leave discovery of syntactic evidence to further research. Note, however, that in the analysis developed in this dissertation there is possibility for this movement to be covert.

(29) PROGRESSIVE ACCOMPLISHMENTS/UNBOUNDED DYNAMIC TELIC: *drinking a cup of coffee*, *painting the portraits*



As can be seen from (29), in the given system, both [quantity] and [unbounded] can be transmitted via AGREE that applies within an aspectual projection. This feature transferring, however, can apply in two possible directions: upwards from a verbal predicate to a nominal one (i.e., from head-to-spec), or downwards from a nominal predicate to a verbal one (i.e., from spec-to-head). In English, the direction of AGREE within the AspP is upwards, while its direction within the Asp_QP is downwards. As we will see later in this dissertation, in Russian the direction of AGREE is upwards within both aspectual projections. Hence, the choice between the two possible directions of aspectual AGREE seems to be both projection-specific and language-specific.

Having discussed episodic progressive accomplishments, let us now turn to episodic progressive activities. While inflecting dynamic telic events with *-ing* may result in them losing their change-of-state part, dynamic atelic verbs have no change-of-state to begin with. Why can they then be inflected with the progressive *-ing*? The reason why activities can take *-ing* comes from the fact that only when they are unbounded are they compatible with the present tense ongoing event reading (see the next section for more details). Note that the same is also true of accomplishments. They too are incompatible with the present tense ongoing event interpretation, unless progressivized. Hence, not only does *-ing* render a telic dynamic event (i.e., an accomplishment) unbounded, but it

also supplies a dynamic event, either accomplishment or activity, with an ongoing event reading.

From the semantic perspective, the outer aspect projection (filled by *-ing*), being the syntactic intermediary between the TP and the *v*P, can be thought of as introducing a time coordinate that functions as a semantic intermediary between time coordinates encoded by these two syntactic projections. Ramchand (2008), using the Reichenbachian (1947) system of time coordinates, claims that the outer aspect projection introduces a reference time coordinate (RT) that semantically relates the speech time (ST) to the event time (ET) coordinates.

Importantly, the RT introduced by the outer AspP, when in the subset relation with ET, i.e., RT $\subset$ ET (Paslawska & von Stechow 2003), performs two functions. First, it makes the information encoded by the Asp_QP, namely a change-of-state portion of the event that coincides with its final boundary, 'invisible', producing the Imperfective paradox. Second, it yields the ongoing event reading of a dynamic event, introducing a reference point relative to which a given non-instantaneous event can be evaluated.[77] It is in this latter function that the outer aspect projection merges onto an activity.

Given that activities can contain an outer aspect projection, they should be able, similarly to accomplishments, to 'transmit' their [unbounded] feature via spec-head agreement to the DP that moves to their specifier position. If so, then DPs that occur with progressive activities should always receive a mass-like partial interpretation. Since in English the internal argument of a simple activity verb, if available, is already homogenous (except for *push*-type verbs[78]), we cannot tell whether there is an agreement between the nominal and verbal predicate within the outer aspect projection of progressive activities or whether the internal argument of these verbs moves into the [Spec, AspP] to begin with. However, to make the system consistent, I simply assume

[77] While it is clear how to use Reichenbach's (1947) reference time coordinates to describe a single event reading of unbounded events (i.e., as a subset relation RT $\subset$ ET), it is not clear how to represent their iterative reading. Given that answering this question would lead us away from this dissertation's objectives, I leave it unanswered.

[78] Recall that in English *push*-type verbs can be atelic even when appearing with quantity DPs, e.g., *push the carts* (atelic). When telic, these verbs specify a change-of-location, rather than a change-of-state. Because of this, their progressive interpretation yields a partial reading of the Directed Path rather then of the Undergoer argument. Discovering how exactly this correlates with the agreement relation discussed above is beyond the scope of this thesis.

that the answer to both of these questions is yes.[79] Note, however, that the proper answer to these questions requires extensive research into the aspectual structure of DPs that clearly exceeds the objectives of this dissertation which is concerned with the structure and acquisition of verbal and not nominal predicates.

Before I depart from the topic of progressive activities, note that the condition according to which the specifier position of an aspectual projection must be filled – the condition that arises from Verkuyl's generalization – does not apply to outer aspect, given that progressive activities can be intransitive. Only when it comes to the inner aspect projection, must its specifier be filled by an Undergoer argument. This is not unexpected, provided that inner aspect encodes the change-of-state of the Undergoer argument. Since the outer aspect simply encodes an ongoing process, its specifier can be empty.

Is the specifier of progressive accomplishments always filled? In other words, must the Undergoer argument of progressive accomplishments move into [Spec, AspP]?[80] As we will see in the next section, the answer to this question is no.

3.3.2.2. Habitual reading of syntactically unbounded events

As mentioned in the previous section, in English, progressive verbs are usually interpreted as encoding an ongoing single event. In fact, this is their default reading. However, as shown below, these verbs can also receive an alternative multiple events/habitual/iterative interpretation:[81]

[79] As we will see later in this dissertation, in Russian, where activity verbs can take singular count nouns as their internal argument, these nouns receive a partial interpretation (on a single event reading). Given that the singular count nouns are quantities by definition, the only way for them to receive a partial interpretation is by moving into the [Spec, AspP] – a syntactic position where they can acquire the [unbounded] feature which can override their [quantity] value. This behaviour of Russian DPs, confirms, at least indirectly, our assumption that the internal argument of activities that receive an ongoing event interpretation moves into the [Spec, AspP].

[80] Here and henceforth AspP stands for an outer aspect projection, whereas Asp_QP - for an inner aspect projection.

[81] Speakers who exhibit a strong preference for expressing habitual in English using the simple tense may judge these sentences as odd.

(30) a. Peter was surprised that he got sick last year. Every day, he was eat**ing** an apple.

unbounded, telic

b. Mary gave a bottle of wine to Peter. He is drink**ing** that wine every day.

unbounded, telic

c. Peter will be studying for his exam next week. He will be read**ing** books every day. ***unbounded, atelic***

Interestingly, when it comes to the iterative interpretation of telic events, the [unbounded] feature does not override their telic value. Thus in (30a) and (30b), instead of having a single unbounded event, we have an unbounded sequence of completed events. In its iterative function, the outer aspect simply reiterates the basic event. The fact that iterative/habitual simply 'multiplies' the event encoded by the *v*P, creating an infinite sequence of this event, suggests that the *v*P structure remains unaltered. If so, there is no movement of the Undergoer argument out of a telic *v*P.

Following this observation, let us assume that only when the Undergoer argument moves out from the [Spec, Asp_QP] into the [Spec, AspP], where it acquires the [unbounded] feature via AGREE, will the resulting event receive an indefinite single event interpretation, i.e., an ongoing/episodic event reading. If, however, it remains in [Spec, Asp_QP], where it measures out the basic event, the resulting unbounded event will be interpreted as an indefinite sequence of the telic event encoded by the *v*P. Unfortunately, when it comes to unbounded activities, it is impossible to say whether or not they also follow this pattern, given that activities are underlyingly atelic and that their internal argument is underlyingly a non-quantity DP. To make the system consistent, however, let us assume that transitive unbounded activities[82], just like unbounded accomplishments, receive an ongoing event interpretation only when their internal argument, if present, moves into [Spec, AspP]. Otherwise, they are interpreted habitually.

[82] Of course, the interpretation of intransitive activities does not depend on their internal argument, given that they lack this argument. Nonetheless, these verbs can also encode either a single or a multiple event reading. This shows that one needs to further investigate when and why an unbounded activity acquires a single event reading, as opposed to a multiple event one. It may be that unbounded events with a habitual interpretation have a HAB operator inserted under the Aspº and unbounded events with an ongoing event reading have an ONG operator inserted under the Aspº. Unfortunately, lacking space and time, I cannot further examine this problem in this dissertation. Note, however, that resolving this problem is not crucial for my analysis. What is important, however, is that the quantized Undergoer argument must move (overtly or covertly) into [Spec, AspP] in order to receive an unbounded interpretation.

Despite the fact that English progressive accomplishments and activities are compatible with a habitual/iterative reading, it is the simple (tense) forms of these verbs that are usually used in the habitual. Let us discuss these forms in more details.

3.4. Interaction between present tense and non-stative events

It is a well-known fact that in English only stative verbs, being truly homogenous by nature, can receive a present tense interpretation. Achievements, activities and accomplishments, on the other hand are incompatible with present:[83]

(31) a. Mary knows these students. √ongoing interpretation
b. John loves Susan. √ongoing interpretation

(32) a. **At this moment*, Mary plays piano. #ongoing interpretation
b. **At this moment*, Roxanne paints John's portrait. #ongoing interpretation
c. **At this moment*, Susan finds some strange objects in her house. #ongoing interpretation

Thus, the stative sentences in (31) have an ongoing event reading, whereby at the time of speech Mary is perceived as being in the state of *knowing the students* and John in the state of *loving Susan*. In contrast, the non-stative sentences in (32) cannot receive an ongoing event reading, and are, hence, ungrammatical with the adverbial *at this moment* that enforces such a reading. In general, to receive a present tense interpretation, non-stative events must be inflected with *-ing*:[84]

(33) a. *At this moment*, Mary is play**ing** piano. √ongoing interpretation
b. *At this moment*, Roxanne is paint**ing** John's portrait. √ongoing interpretation

Nonetheless, even the present tense forms of non-stative verbs are not completely banned from the system. Instead of being fully ungrammatical, they acquire a new

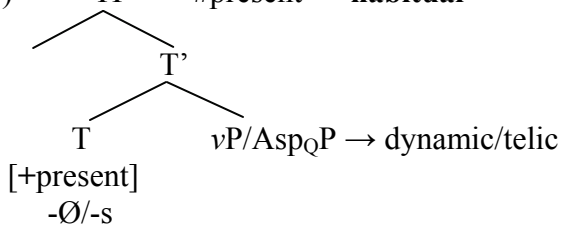
[83] Discovering the reason why achievements, accomplishments and activities are incompatible with the present tense is beyond the scope of this dissertation.
[84] Since only dynamic verbs can be inflected with *-ing*, achievements do not have this option, unless coerced into accomplishments.

interpretation. In English, the morphologically present forms of non-stative verbs are standardly interpreted as habitual:

(34) a. Mary plays piano *every day*. √habitual interpretation
b. Roxanne paints John's portrait *every day*. √habitual interpretation
c. *Every day* Susan finds some strange objects in her house. √habitual interpretation

The data in (32) and (34) suggest that in English the present tense forms of non-stative verbs, having the structure in (35), undergo an obligatory semantic shift into the habitual.[85] This semantic operation can be thought of as of a repairing strategy of coercion-type that saves an otherwise doomed derivation.[86]

(35) TP → #present → **habitual**



The observation that in order to receive an ongoing event interpretation, a non-stative event must contain an outer aspect projection, otherwise it obligatorily undergoes a semantic shift, will be very important in our analysis of Russian imperfective verbal predicates. But before we turn to Russian, let us summarize the aspectual system of English.

[85] This shifting operation has spread to past and future forms of non-stative verbs, making the system more symmetrical.
[86] Coercion of the present tense forms can be seen in terms of post-syntactic restructuring or, alternatively, as of choosing an alternative structure (a structure where *v*P/Asp$_Q$P is not directly merged under TP). In any case, the coerced structure seems to contain a phonologically empty outer aspect projection – if this projection is indeed correlated with a habitual reading of events. Since in this thesis I have decided not to examine coercion, in what follows I will present the syntactic structure of English simple tense verbs without an AspP. This over-simplified way of presenting the syntactic structure of non-stative verbs will help us to better observe the similarities between English and Russian non-stative verbs. This being said keep in mind that since coercion involves restructuring, English present tense non-stative verbs will have a structure different from their Russian counterparts at the end of the derivation, given that in Russian coercion changes the [+present] feature on TP instead of inserting a phonologically empty AspP between *v*P and TP.

3.5. Concluding remarks: English aspectual system

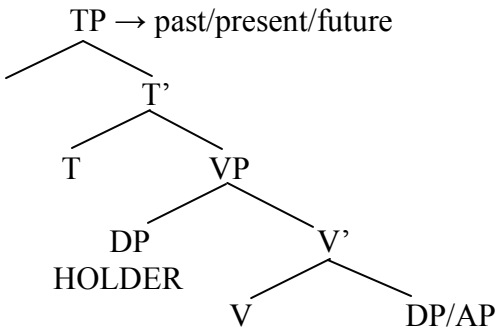
To conclude our investigation of English aspectual system, I will list syntactic structures related to aspect that one finds in English. I will also specify what interpretation each of these structures, as well as the elements within a given structure, acquires.

3.5.1. Non-dynamic verbal predicates

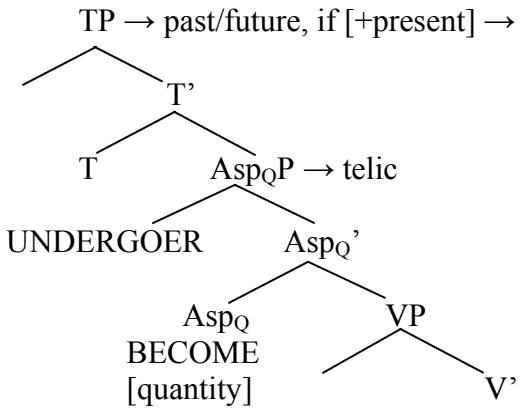
As we have established, the non-dynamicity of states and achievements, i.e., the fact that they lack a *v*P projection, prevents them from taking an outer aspect projection. As a consequence, these predicates merge directly under a TP.

Despite their similarities, states and achievements differ from one another in number of important ways. First and foremost, achievements, unlike states, encoding transitions, contain an Asp_QP. Consequently, while a stative predicate is structurally a VP embedded within a TP, an achievement is structurally an Asp_QP embedded within a TP.

(36) STATES or (NON-DYNAMIC ATELIC EVENTS): *like, love, know, live*



(37) ACHIEVEMENTS or (NON-DYNAMIC) TELIC EVENTS: *find, recognize*, *die,*



Given that the only argument that can function as the Undergoer argument is the argument in the [Spec, Asp_QP], the subject of a state in the [Spec, VP] is simply interpreted as the Holder of the state, while the subject of an achievement in the [Spec, Asp_QP] is perceived as Undergoer (of the transition encoded by the verbal predicate) (Ramchand 2008). Moreover, only achievements, being incompatible with present, undergo an obligatory semantic shift into the habitual.

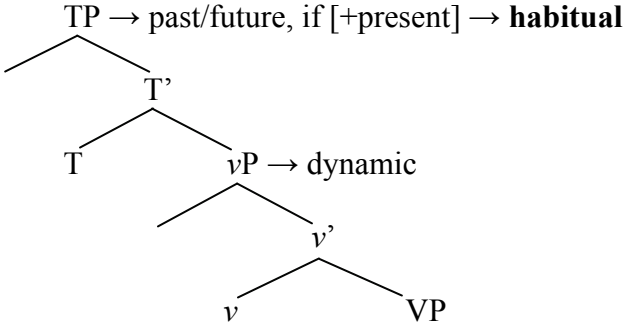
3.5.2. Dynamic verbal predicates

Unlike non-dynamic verbal predicates, dynamic verbal predicates such as activities and accomplishments can directly merge under TP or through an intermediate AspP projection. Traditionally, the cases of direct attachment to TP are known as simple 'tense' forms of dynamic verbs and the cases of attachment via an AspP as progressive 'tense' forms of dynamic verbs. Let us look at their structure, starting with the simple 'tense' ones.

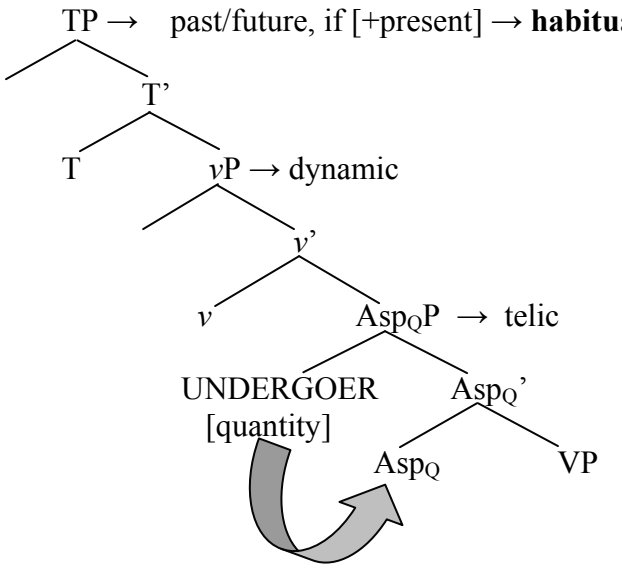
3.5.2.1. Simple 'tense' forms of dynamic verbal predicates

In English, both activities and accomplishments can have the structure where they lack an outer aspect projection. These structures have been traditionally described as the simple 'tense' forms of activities and accomplishments and, most recently, as their bounded forms (Slabakova 2001):

(38) (SIMPLE TENSE) ACTIVITIES or DYNAMIC (ATELIC) EVENTS:
ate soup, *read books, run.*



(39) (SIMPLE TENSE) ACCOMLISHMENTS or (BOUNDED) DYNAMIC TELIC EVENTS: *drink a cup of coffee*, *paint the portraits, run a race.*



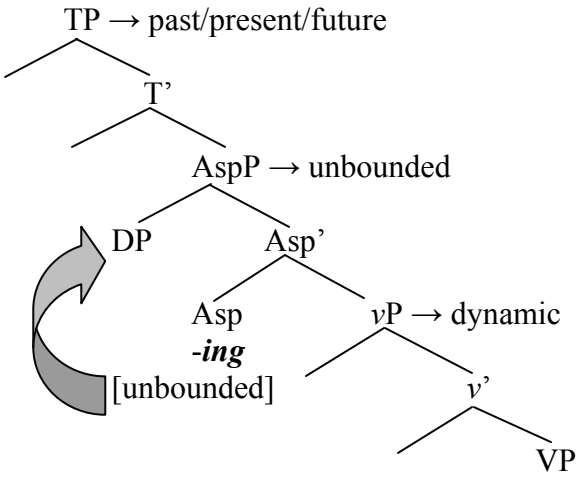
The sole difference between simple activities and simple accomplishments is that only the latter, apart from encoding the process subevent, also encode the transition that this process leads to. Consequently, they quantify over the argument that occupies their [Spec, Asp$_Q$P]. To put it differently, the argument in the [Spec, Asp$_Q$P] is perceived as the Undergoer of the change-of-state encoded by the verbal predicate. It is precisely this argument that renders the verbal predicate telic in English, through a downward spec-head agreement.

Syntactically simple activities and accomplishments, unlike their complex (progressive) counterparts, cannot receive a present tense ongoing interpretation. In the present, they undergo a semantic shift, which, in English, is a shift into habitual.

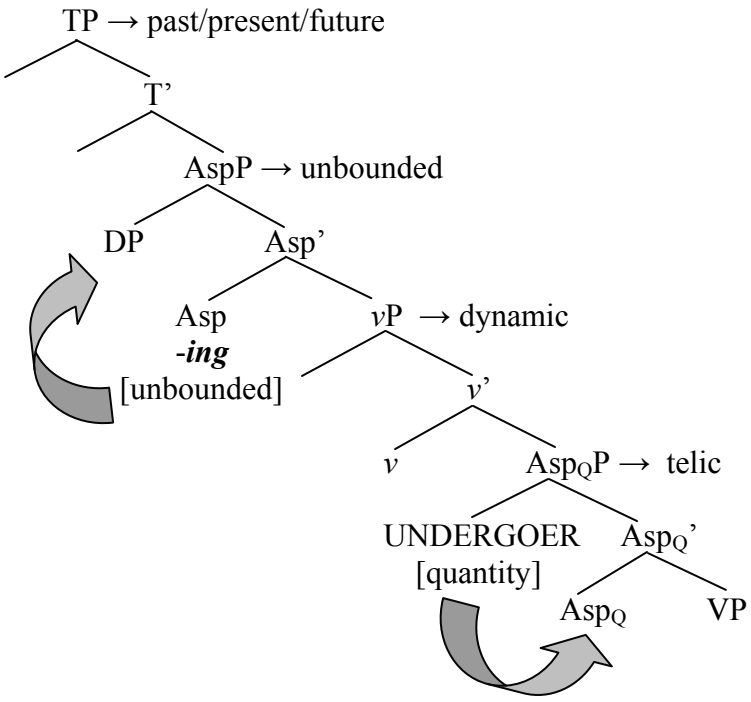
3.5.2.2. Progressive 'tense' forms of dynamic verbal predicates

In English, activities and accomplishments can appear with an outer aspect projection. English verbs having such a syntactically complex structure are traditionally known as progressive 'tense' activities and accomplishments, where *progressive* should mean inflected by *-ing*, as in (40) and (41):

(40) PROGRESSIVE ACTIVITIES or UNBOUNDED DYNAMIC (ATELIC) EVENTS: *eating soup*, *reading books, running*



(41) PROGRESSIVE ACCOMPLISHMENTS or UNBOUNDED DYNAMIC TELIC EVENTS: *drinking a cup of coffee*, *painting the portraits*



Just like simple activities and accomplishments, the only difference between progressive activities and accomplishments is that only the latter, in addition to containing an outer aspect projection, also contains an inner aspect projection. Despite

this structural difference, both progressive activities and progressive accomplishments along with their internal argument receive an unbounded/partial interpretation, once this argument moves out of the verbal domain. In a way, episodic progressive cancels out the difference between these two types of dynamic events, because the verb's internal argument moves into the [Spec, AspP], where it acquires the [unbounded] feature from the verbal predicate inflected with *-ing*, via an upward spec-head agreement relation. The only time when the structural difference between progressive activities and progressive accomplishments can be perceived is in habitual/iterative – a reading whereby the verb's internal argument does not move out of the *v*P. Only progressive accomplishments, being telic, are interpreted as an infinite sequence of completed events. In contrast, progressive activities, being atelic, are interpreted as an infinite sequence of non-completed events.

Importantly, syntactically complex activities and accomplishments, unlike their simple counterparts, can receive a present tense ongoing interpretation. Consequently, these forms do not undergo a semantic shift into habitual, although this is masked by the ability of complex activities and accomplishments to be interpreted habitually/iteratively.

In summary, English has two types of non-dynamic predicates, i.e., states and achievements, as well as two types of dynamic predicates, i.e., activities and accomplishments. Only achievements and accomplishments, being telic, contain an Asp_QP in their structure. Likewise, only activities and accomplishments, being dynamic, can merge under an outer AspP, producing their 'progressive' forms. Because achievements as well as simple (tense) activities and accomplishments are incompatible with present, their present tense forms undergo a semantic shift into habitual.

Chapter 4: Russian aspectual system

It is a well-known fact that Slavic languages, in general, and Russian, in particular, mark the aspectual value of their verbs morphologically. Indeed, the vast majority of Russian dynamic verbs, with the exception of a small class of biaspectual verbs, can appear in either one of the two existing aspectual forms: imperfective (IMP) or perfective (PERF).[87] For instance, the verb "to read" has two morphologically distinct forms: the imperfective *čitat'*-IMP and the perfective *pročitat'*-PERF.

The choice of the appropriate form depends on which part(s) of the described event the speaker deems to be important and thus wishes to draw hearer's attention to. If the speaker wishes to emphasise the initial, final or both boundaries of an event, the perfective form of the verb will be used.[88] If, however, he/she wishes to call the hearer's attention to the time during which the event was still developing, the imperfective will be used. Hence, in Russian "each aspect gives positive information about an aspect of a situation. The perfective signals the end-points, the imperfective gives information about internal stages" (Smith 1997, p. 9).[89]

4.1. Perfectivity diagnostics

In Russian the perfective/imperfective distinction is well-observed only in the past tense. For example, both imperfective and perfective forms of the verb "write" receive a past tense interpretation when inflected with the past tense morpheme *-l*, e.g. *pisa**l***-IMP "wrote" vs. *napisa**l***-PERF "wrote".

[87] This generalization is not true for non-dynamic verbs such as states and achievements. In particular, Russian stative verbs are always imperfective and Russian achievement verbs are always perfective.

[88] Later in this dissertation, we will see that rather than focusing on the event's boundary per se, the perfective aspect encodes a point in time at which the change of state has occurred (Klein 1995). Because this point often coincides with a boundary of an event, perfective is perceived as emphasising this boundary.

[89] Smith (1991) assumes that the perfective aspect points to a presence of both of the event's boundaries: initial and final. This claim does not reflect native speakers' intuition, according to which perfective verbs, with the exception of delimitative perfective verbs, emphasize only one of the event's boundaries, most often the final one.

In contrast, verbs marked with a present tense morpheme[90] receive an interpretation depending on their aspectual status. Specifically, imperfective verbs inflected with a present tense suffix have an ongoing event/iterative interpretation, while perfective verbs inflected with the very same tense suffix have a future tense reading. This difference between the present tense form of perfective and imperfective verbs is standardly used as a diagnostic to distinguish perfective forms from imperfective ones:

(1) *The ongoing event diagnostic*

Only the present tense form of IMP verbs can receive an ongoing event interpretation.

a. V dannyj moment Maša čita**et** Petinu statju.
At this moment Masha reads-IMP Petja's article.
'At this moment, Masha is-reading Petja's article.'

b. *V dannyj moment Maša pročita**et** Petinu statju.
At this moment Masha reads-PERF Petja's article
'At this moment, Masha will-read Petja's article.'

Moreover, Russian verbs have no independent morpheme that marks the future tense. To express future, one can, depending on aspect, either use a present tense form of perfective verbs (this is the so-called *synthetic* future) or use an infinitival form of the imperfective verb together with a finite form of the future tense auxiliary *byt'* "will" (this is the so-called *analytic* future). These differences between the two types of future are also standardly used as perfectivity diagnostics:

(2) *The synthetic future diagnostic*

Only perfective verbs in their present tense form can appear in the synthetic future construction.

a. *Skoro Maša čitaet Petinu statju.
Soon Masha reads-IMP Petja's article
'Soon Masha is-reading Petja's article.'

[90] In Russian, the present tense morpheme is fused with a person subject agreement morpheme. This is why, in reality, we have six different present tense morphemes. Given that agreement plays no role in analysis of aspect, throughout this dissertation I will simply refer to these morphemes as the present tense morphemes.

b. Skoro Maša pročitaet Petinu statju.
Soon Masha reads-PERF Petja's article
'Soon Masha will-read Petja's article.'

(3) *The analytic future diagnostic*

The analytic future construction, i.e., the future tense construction containing a finite form of the auxiliary *byt'* "will", is restricted to imperfective verbs:

a. Čerez 10 minut Maša budet čitat' Petinu statju.
In 10 minutes Masha will reads-IMP Petja's article.
'In 10 minutes, Masha will be-reading Petja's article.'

b. *Čerez 10 minut Maša budet pročitat' Petinu statju.
In 10 minutes Masha will reads-PERF Petja's article.
Intended: 'In 10 minutes Masha will read Petja's article.'

The fourth diagnostic that is often used to distinguish a perfective form of a verb from an imperfective one is the Complement diagnostic given in (4). According to this diagnostic perfective verbs cannot be complements of phase verbs such as *načinat'*-IMP/ *načat'*-PERF "begin", *prodolžat'*-IMP/*prodolžit'*-PERF "continue", *prekras'at'*-IMP/ *prekratit'*-PERF "stop/cease", *preryvat'*-IMP/*prervat'*-PERF "interrupt" or *končat'*-IMP/ *(za)končit'*-PERF "stop/finish". This behaviour of perfective verbs does not depend on a particular aspectual value of a given phase verb. The latter can be either imperfective or perfective.

(4) *The complement diagnostic*

Only IMPs can be complements of phase verbs:

a. 10 minut nazad Maša načala čitat' Petinu statju.
10 minutes ago Masha started-PERF read-IMP Petja's article.
'10 minutes ago, Masha started to read Petja's article.'

b. *10 minut nazad Maša načala pročitat' Petinu statju.
10 minutes ago Masha started-PERF read-PERF Petja's article.
Intended: '10 minutes ago, Masha started to read Petja's article.'

Below is the summary of all 4 diagnostics:

(5) Diagnostics for distinguishing imperfectives from perfectives: [91]

	Imperfective	Perfective
Ongoing event interpretation	+	-
Synthetic future	-	+
Analytic future	+	-
Compatibility with phasal verbs	+	-

4.2. Morphological structure of perfective and imperfective verbs

In Russian, as well as in other Slavic languages, the morphological distinction between the two aspectual forms can be encoded in at least five different ways, rendering the verbal system intricate and complex. Before we look at the morphological processes that relate perfective verbs with their corresponding imperfectives, I should mention an important assumption that distinguishes the analysis presented in this dissertation from any traditional analysis.

Contrary to the traditional view, I do not consider Russian verbal roots to be imperfective by nature.[92] I believe that imperfectivity is simply a descriptive term used in reference to a particular interpretation that results from a given syntactic structure. That being said, note that in Russian, the morphological form consisting of a verbal root with a tense or agreement marker, but without any overt aspectual marker, i.e., ROOT + T/AGR, is imperfective, e.g. *čita-t'*-IMP "to read". To distinguish such morphologically simple imperfectives from the imperfectives consisting of a root and two aspectual morphemes, i.e., ASP_1 + ROOT + ASP_2 + T/AGR, e.g. ***pere-čity-va-t'***-IMP "to reread", throughout this dissertation, I will refer to them as *primary imperfectives* (PIs). Following the well-established tradition, I will call the morphologically complex imperfective verbs

[91] Another diagnostic that one may be tempted to use is the past passive participle (PPP) formation, with the generalization that PPPs are mainly derived from perfective stems. As argued by Schoorlemmer (1995), such a diagnostic is not without problems. Not only does it inaccurately classify those imperfective verbs that do form a PPP as perfective, e.g., *bityj* 'is-beaten', *šityj* 'is-sawed', *krytyj* 'is-covered', but also it misclassifies intransitive perfective verbs, as well as perfective verbs that are not derived by the process of prefixation as imperfectives. Provided that a valid perfectivity diagnostic should identify all perfective verbs, I do not consider the PPP formation to be a legitimate perfectivity diagnostic.

[92] Note that Russian verbal roots, being bare roots, must take some sort of a Tense or Agreement marker. In particular, they can surface with the infinitival suffix *-t'* "to", with the past tense suffix *-l* followed by a gender agreement marker, i.e., Ø – for masculine, *-a* – for feminine, *-o* – for neuter or with one of the six present tense markers, i.e., *-(j)u*, *-eš*, *-et*, *-em*, *-ete*, *-(j)ut*.

secondary imperfectives (SIs) and reserve the general term *imperfectives* (IMPs) for either of these two forms.

With this assumption in mind, let us proceed to an examination of major morphological processes that can derive an aspectual pair (in the non-traditional sense of this term) in Russian:

(i) *Perfectivization by prefixation:*

Perfectivization by prefixation is a morphological process, whereby a verbal root combines with various 'perfective' preverbs (verbal prefixes) to form the perfective verbs of the form ASP_1 + ROOT + T/AGR.[93] This process is highly idiosyncratic, in that there are many preverbs in Russian and each verbal root selects for how many and which among these preverbs it can combine with. According to *The Russian Academy Grammar* there are as many as 28 preverbs in Russian and up to 16 of them can attach to the same verbal base (Borik 2002). To illustrate, consider the verbal root *pisa-* "write", which can combine with 11 prefixes:

(6) a. *na-**pisa**-t'*-PERF "to write"

b. *do-**pisa**-t'*-PERF "to write up"
*iz-**pisa**-t'*-PERF "to write all over"
*za-**pisa**-t'*-PERF "to write down"
*o-**pisa**-t'*-PERF "to describe"
*pod-**pisa**-t'*-PERF "to sign"
*pere-**pisa**-t'*-PERF "to copy"
*pri-**pisa**-t'*-PERF "to add by writing"
*ras-**pisa**-t'*-PERF "to paint all over", "to register marriage"
*v-**pisa**-t'*-PERF "to enter by writing"
*vy-**pisa**-t'*-PERF "to copy out"

From the data in (6a) and (6b) we can see that only one of all the derived perfective forms has the same meaning as the root, namely ***na**pisat'*-PERF "to write". This is usually the case: in Russian only one of prefixed perfective verbs derived from a given root

[93] Exceptionally, few of Russian prefixed verbs are imperfectives, as determined by the perfective/imperfective diagnostics, e.g., ***pred**videt'* "forsee-IMP", ***pred**čuvstvovat'* "have a presentiment-IMP", ***vy**gljadet'* "to look-IMP" (Forsyth 1970). These verbs are mainly loan translations and borrowings from other languages. Because they often contain roots that have no independent meaning, e.g., *za*viset'-IMP "to depend", *pre*zirat' "to despise-IMP", they are most likely stored by Russian speakers as chunks, with no prefixes.

preserves its meaning. Because the prefix *na-* in (6a) does not alter the meaning of the root *pisa-*, it can be thought of as being a pure aspectualizer or a *lexically empty* prefix.[94] It merely endows the event encoded by *pisa-* with a completion point, without changing its basic meaning. Despite the fact that each verbal root usually combines with only one lexically empty prefix, this prefix is different for each root, e.g., *na-* for *pisa-* "write", *pro-* for *čita-* "read", *vy-* for *pi-* "drink", etc.

The process of perfectivization by prefixation not only can derive perfective correspondents of dynamic roots, but also achievement verbs from stative-like roots, e.g. *zna-* "know" → *znat'*-PI "to know" and ***u**znat'*-PERF "come to know, recognize". Derived achievements, however, always acquire a new meaning during prefixation.[95]

Perfective verbs derived by prefixation are often grouped by Russian linguists into three groups/types:

(1) <u>completives</u>: verbs that encode the end-point (telos) of an event: ***pro**čitat'*-PERF "to read (until the end)", ***vy**pit'*-PERF "to drink (until the end)", ***do**pisat'*-PERF "to write (until the end)". Completive verbs form the largest and the most productive group of perfective verbs derived by prefixation. This is to say that the majority of Russian verbal dynamic roots can take at least one preverb that yields a completive meaning.

(2) <u>inceptives</u>:[96] verbs that emphasize the beginning-point of an event: ***za**bolet'*-PERF "become sick/fall ill", ***za**pet'*-PERF "start signing"; ***za**plakat'*-PERF "burst into tears", ***za**smejat'sja*-PERF "start laughing"; ***za**govorit'*-PERF "start talking", ***voz**želat'*-PERF

[94] To avoid any terminological confusion, in this dissertation I will refer to these prefixes as *empty*, which is the term developed by Russian structuralists. Importantly, the notion of *lexically empty* morphemes is not similar to the notion of phonologically null morphemes. Unlike null affixes, these prefixes are phonologically overt, but have no semantic content (apart from that which is related to aspect). In other words, they are lexically/semantically and not phonologically empty.

[95] Because achievements always acquire an idiosyncratic meaning their morphological transparency, and hence their relation with the stative verbs that have the same root, is not always obvious, e.g. *byt'* "to be" vs. ***pri**byt'* "to arrive", ***za**byt'* "to forget". The question whether less transparent achievements are derived compositionally or rather have separate lexical entries is beyond the scope of this dissertation. Importantly, the syntactic analysis of telic verbs developed in this dissertation accounts for both lexical and derived achievements.

[96] Forsyth (1970) makes a distinction between *inceptive* and *evolutive* verbs, with inceptive verbs having meaning "start do-ing" and evolutive "become + psychological state", e.g., ***ras**serdit'sja*-PERF "become angry", ***voz**nenavidet'*-PERF "become hateful of something or someone", etc. The only difference between these two groups is that the former takes activity-like stems and the latter stative-like stems. They both emphasize the beginning point of an event, being a state or process. I thus, do not differentiate these two classes of verbs and simply refer to them as to inceptives.

"become overcome by desire", ***voz****gorditsja*-PERF "become proud", ***u****znat'*-PERF "come/get to know", ***vl****jubit'sja*-PERF "fall in love", ***po****ljubit'*-PERF "take a liking to"[97], ***po****bežat'* "start running-PERF"[98]. Inceptive verbs are normally derived from motion and psych verbs, or verbs describing any sort of sound manipulation, including speech (Vinogradov 1972). They are generally perceived as punctual and non-agentive (Vostokov 1831).

(3) <u>delimitatives</u>: verbs that describe events that went on during some, non-momentary, interval of time, specified by an overt or covert adverbial. Their literal meaning is, hence, "to do something for *X*-period-of-time." Or, as stated by Vinogradov (1972), delimitative verbs indicate "spreading of an event over some interval of time" (p. 420). There are two prefixes that are usually associated with delimitative verbs in Russian: *po-* and *pro-*. The delimitative prefix *po-* signals that the interval during which the event lasted is unspecified and rather short, although bounded in time. That is why the delimitative verbs with *po-* are usually translated as containing in their meaning the covert durative adverbial "for a while", e.g., ***po****spat'*-PERF "to sleep for a while", ***po****plakat'*-PERF "to cry for a while". The delimitative prefix *pro-* signals that the interval during which the event went on is specified by an overt adverbial, the presence of which is obligatory, e.g., ***pro****spat'*-PERF <u>*dva dnja*</u> "to sleep for two days"; ***pro****plakat'*-PERF <u>*nedelju*</u> "to cry for a week", but ****pro****spat'*-PERF "to sleep for ?"; ****pro****plakat'*-PERF "to cry for ?".

(ii) ***Perfectivization by suffixation***

Verbal roots which denote actions that inherently consist of a series of identical acts can combine with the suffix ***-nu*** to yield a semelfactive perfective form that limits these

[97] Inceptive verbs that contain stative stems (i.e., Forsyth's *evolutive* verbs) have a quite vague meaning and can be easily misanalysed as completive. Thus, Tikhonov (1998) claims that the verb ***po****čuvstvovat'*-PERF "*po*-feel" is not inceptive, given that ***po****čuvstvovat' bol'* means "feel/sense the pain" rather than "start to feel the pain". The most literal translation of ***po****čuvstvovat' bol'* that I can think of is "become aware of the pain", which clearly encodes the beginning rather then end point of *feeling the pain* event. Perhaps the vagueness of interpretation is due to instantaneous achievement-like nature of inceptive verbs, with no well-perceived initial and final boundaries.

[98] Motion verbs consisting of the prefix *po-* and a root, indicating a directed path, have an inceptive meaning of a beginning of forward motion or motion along a directed path: ***po****letet'*-PERF "start to fly (in one direction)", ***po****bežat'*-PERF "start to run (in one direction)", ***po****plyt'*-PERF "start to swim (in one direction)".

repeated acts to one. In other words, the derived perfective form obtains the meaning "to do once", while its corresponding imperfective form means "to do more than once", e.g., *prygnut'*-PERF "to jump once" vs. *prygat'*-IMP "to jump", *čixnut'* "to sneeze once" vs. *čixat'*-IMP "to sneeze", *stuknut'*- PERF "give a single knock" vs. *stučat'*-IMP "to knock".[99]

(iii) ***Secondary imperfectivization***

Secondary imperfectivization is a morphological process whereby a perfective verbal stem combines with the imperfective suffix ***-va*** (or its allomorphs) to form a corresponding imperfective.[100] Generally, only prefixed stems that have acquired a new meaning or new shades of meaning in the process of prefixation may undergo secondary imperfectivization, e.g. *bi-* "beat" → ***u****bit'*-PERF and ***u****biva**t'*-SI "to kill", *igra-* "play" → ***vy****igrat'*-PERF and ***vy****igry****va**t'*-SI "to win" , but *pisa-* "write" → ***na****pisat'*-PERF and ****na****pisy****va**t'*-SI "to write".[101] Achievements, being instantaneous events, resist secondary imperfectivization.[102]

Some verbs, however, do form aspectual triplets, allowing for prefixed stems that did not acquire a new meaning in the process of prefixation to be inflected with *-va*, e.g., *pi-* "drink" → *pit'*-PI "to drink", ***vy****pit'*-PERF "to drink (all/some)", ***vy****pi****va**t'*-SI "to drink (iterative)". In the case of aspectual triplets, there is strong preference to distinguish between the two imperfective forms. The PI is usually associated with a single-event reading, while the SI is limited to an iterative context.

Unlike the perfectivization by prefixation, SI is not idiosyncratic.

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[99] The structure as well as the acquisition of Russian semelfactive verbs will be not discussed in this dissertation. I will, however, show that their existence does not threaten the analysis of Russian perfective verbs proposed in this dissertation.

[100] As shown by Romanova (2007), SI stems, in their turn, can become perfective again when combined with the distributive *po-*: *pisa-* "write" → ***za****pisa-* "write down-PERF" → *zapisy****va-*** "write down-SI" → ***po****zapisyva-t'*-PERF "to write down (one after the other)".

[101] Exceptionally, the prefixless perfective stems *da*-PERF "give" and *de*-PERF "put" also takes *-va* to form its imperfective correspondent *da****va**t'*-SI "to give", *de****va**t'*-SI. The rest of lexical perfectives are related to their correspondent imperfectives by irregular processes discussed in (iv).

[102] This is similar to English achievements which resist progressivization, unless they are coerced into accomplishments.

(iv) ***Irregular formation***

This group contains the remaining morphological processes including stress shift, e.g. *urez**á**t'*-IMP/*ur**é**zat'*-PERF "to cut down"; ablaut (vowel alternation), e.g., *bros**a**t'*-IMP/ *bros**i**t'*-PERF "to throw"; *spusk**a**t'*-IMP/*spust**i**t'*-PERF "to let loose/to lower"; *umir**a**t'*-IMP/*umer**e**t'*-PERF "to die", *rešat'*-IMP/*rešit'*-PERF "to solve"[103] and suppletion, e.g. *brat'*-IMP/*vzjat'*-PERF "to take", *iskat'*-IMP "to search"/*najti*-PERF "to find".

(v) ***None***

Russian has few verbs that are lexical perfective, e.g., *dat'*-PERF "give", *kupit'*-PERF "buy", *det'*-PERF "put", *past'*-PERF "fall", *sest'*-PERF "sit down", *stat'*-PERF "become", etc. That is to say that these verbs do not acquire their perfectivity compositionally, i.e., they do not need to undergo any of the morphological processes described above in order to acquire a perfective reading. They are 'lexically' perfective, in that their perfective structure is triggered by the information specified in the lexical entries of their roots.[104] Nonetheless, these perfective roots can combine with lexical prefixes, producing various idiosyncratic meanings, e.g., *da-* "give" → *dat'*-PERF "to give", ***ot****dat'*-PERF "to give back", ***pere****dat'*-PERF "to pass across", ***iz****dat'*-PERF "to publish".

To sum up, Russian dynamic verbs come in three morphological forms: primary imperfective (PI), perfective (PERF) and secondary imperfective (SI). Thus, the same verbal root may appear in all of these forms.

[103] According to Forsyth (1970), the SI forms related to their perfective counterparts by ablaut are getting replaced in modern Russian by more regular forms, derived by the *-va* suffixation, e.g., *podgotov**i**t'*-PERF vs. *podgotovl'**a**t'*-SI/*podgotavli**va**t'*-SI "prepare", *vosstanov**i**t'*-PERF vs. *vosstanovl'**a**t'*-PERF/ *vosstanavli**va**t'*-PERF "restore".

[104] It might be that ditransitive verbs are perfective based on their structure and not the lexicon. I will not, however, discuss ditransitive verbs in this dissertation. Readers are referred to Slabakova (2001) for some insights on ditransitive verbs in Slavic.

Table 1 Morphological types of Russian verbs

Verbal form	Primary Imperfective (PI)	Perfective (PERF)	Secondary Imperfective(SI)
Affixes	ROOT-T/AGR	**ASP$_1$**-ROOT-T/AGR	**ASP$_1$**-ROOT-**ASP$_2$**-T/AGR
Ex. 1	*pi-l* "drank-PI"	***vy-pi-l*** "drank-PERF"	***vy-pi-va-l*** "drank-SI"
Ex. 2	*pisa-l* "wrote-PI" #"signed-PI"	***na-pisa-l*** "wrote-PERF" ***pod-pisa-l*** "signed-PERF"	****na-pisy-va-l*** "wrote-SI" ***pod-pisy-va-l*** "signed-SI"

As can be seen from the Example 1 in Table 1, the primary imperfective form of the verb "drink" contains no aspectual marker, its perfective form contains the aspectual prefix *vy-* and its secondary imperfective form contains two aspectual markers, namely the prefix *vy-* and the suffix *-va*. Because the verb "to drink" allows for an aspectual triplet, *-va* can attach to the stem that has the same meaning as the root.

The majority of Russian verbs, however, disallow aspectual triples, in that they have only two aspectual variants with the same meaning.[105] While one of them is invariably perfective, the other is either PI or SI. To demonstrate, consider the Example 2 in Table 1. Here, the root *pisa-* meaning "write", when surfacing without any aspectual morpheme, yields the imperfective form of the verb "wrote", i.e., *pisal*-PI. The combination of the root with a perfective prefix yields a perfective form with the same meaning as the root (if a lexically empty preverb is used), as in *na-pisal* "wrote-PERF", or with a different meaning from the root (if a preverb with some lexical meaning is used), as in *pod-pisal* "sign-PERF". Only the stem that has acquired a new meaning in the process of prefixation, i.e., *podpisa-* "sign-PERF" can be inflected with the SI suffix *-va*, producing the imperfective form of the verb "signed", i.e., *podpisyval*. The combination of *-va* with the stem *napisa*-PERF "wrote" yields an illegitimate form ***napisyval*-SI** "wrote".[106] Note that

[105] In Russian traditional literature, the two aspectual variants with the same meaning are said to form an *aspectual pair* (Maslov 1974). In contrast, two morphological forms that contain the same root but have different meanings, such as ***pisa**t'* "to write" and *pod**pisa**t'* "to sign" above, are not considered to be related to each other aspectually. This suggests that Russian structuralists view aspect as category associated exclusively with outer aspect – the view that I argue against in this dissertation. This being said, note that the notion of an aspectual pair is vastly used in Russian grammar books. Moreover, Russian dictionaries standardly list only the imperfective variant from an aspectual pair. Thus, in the case of the verb "write", only prefixless *pisat'*-IMP appears in Russian dictionaries. The speakers are assumed to know what prefix they must use to obtain the PERF counterpart of the verb "write", e.g.., that it is *na-* and not *pod-*.

[106] I believe that this restriction is mediated by a speaker's encyclopedic knowledge rather than by the grammar per se. Syntax allows *-va* to attach to any stem, as long as it is dynamic and telic. However, derivations whose interpretations are not part of speaker's encyclopedia are ruled out as non-existent.

while *pisal*-PI and *na-pisal*-PERF mean "wrote"[107], their morphologically related forms *pod-pisal*-PERF and *pod-pisy-va-l*-SI mean "signed".

In this section, we have glimpsed into the complexity of the Russian aspectual system, the full spectrum of which will be discussed next.

4.3. Syntactic structure of Russian verbs

In this and next chapters we will establish the syntactic structure of Russian verbal predicates. In the two-tiered aspectual system that is advocated in this thesis, determining verbal structure means figuring out which aspectual elements are associated with the inner aspect projection and which are associated with the outer aspect projection. We also need to determine what elements license these projections.

While the list of linguists who examines Russian aspect is extensive, including prominent Russian structuralists (Vostokov 1831, Fortunatov 1899, Isačenko 1960, Vinogradov 1972) as well as generativists (Babko-Malaya 1999, Borik 2002, Stoll 2003, Ramchand 2004, Romanova 2004, 2007, Pereltsvaig 2008, among others), my analysis differs from the analyses that they advance.

To foreshadow my analysis, I will argue that Russian preverbs (and the semelfactive *-nu*) occupy the inner aspect projection, while the SI suffix *-va* occupies the outer aspect projection. In addition, I will claim that, apart from these two phonologically overt aspectual markers, there is a third, phonologically empty, aspectual marker which, similarly to *-va*, occupies the outer aspect projection.

Putting aside cases of coercion, the overall aspectual interpretation of the verbal predicate depends on the presence or absence of the two aspectual projections. In Russian, just like in English, if a verbal predicate lacks both aspectual projections or if it contains an outer aspect projection (with or without containing an inner aspect projection) it will standardly receive an unlimited in time interpretation, while if it contains only an inner aspect projection it will receive a delimited in time interpretation.

We will start our investigation of Russian aspect by an analysis of perfective verbs.

[107] Technically, *pisat'*-IMP and *napisat'*-PERF are not semantically equivalent. While both of them encode a *writing* event, only the perfective form signals that this event was completed or, more precisely, carried through and reached its culmination point/goal. But because Russian structuralists consider this distinction to be aspectual in nature, they classify *pisat'*-IMP and *napisat'*-PERF as two forms of the same verb.

4.3.1. Russian perfective verbs

The central question that we shall be concerned with in this section is what syntactic structure Russian perfective verbs have. To answer this question we must first establish what the Russian term *perfectivity* really stands for. As will be argued in this section, *perfectivity* corresponds to a much better defined notion of *telicity*. Coincidentally, in Russian both of these terms are simply labels for a syntactic structure that contains an inner aspect, but lacks an outer aspect projection.[108] In other words, Russian achievements and accomplishments form a class of *telic* and a class of *perfective* predicates.[109] As we will see toward the end of this section, despite the fact that not all Russian telic/perfective verbs encode the final boundary of an event, they, nonetheless, are always interpreted as delimited in time.

Another issue that we will be dealing with in this section concerns different conditions that must be met for a perfective/telic structure to be well-formed in Russian. In particular, we will see that in Russian a telic structure can be licensed (1) non-compositionally, based on the verb's lexical information, or (2) compositionally, by an aspectual morpheme that the verbal root combines with.

As far as compositional aspectuality is concerned, we must establish which of the Russian aspectual morphemes can properly license an Asp_QP. As we will see, only two types of Russian aspectual morphemes qualify to do so: a verbal prefix and a semelfactive suffix *-nu*. To arrive at this conclusion, we must investigate Russian verbal prefixes, in order to determine why they belong to inner and not outer aspect, especially because this claim has been a ground for disagreement in the literature.

[108] It may well be that in Old Russian *perfective* and *telic* structures were not equivalent. While *telicity* referred to a verbal structure containing an Asp_QP, *perfectivity* referred to a structure that is incompatible with the present tense interpretation. In modern Russian, activity verbs do not have a perfective version, i.e., a form that would be incompatible with the present tense. Because of this gap in the system, the set of perfective verbs in Russian is equal to the set of telic verbs. We will discuss this gap at length later in this dissertation.

[109] By making this claim, I argue against the current trend in the literature, whereby the terms such as *perfectivity* and *telicity* are associated with different aspectual levels, namely, the former with outer aspect and the latter with inner aspect. This fact makes my argument (and, consequently, this chapter) rather long, as I have to contest a number of proposals that have recently appeared in the literature.

4.3.1.1. Analysis of Russian verbal prefixes

As we have seen in section 4.2, morphologically, preverbs make a given root perfective. In other words, they are morphological markers of perfectivity.[110, 111] The question that I would like to address next is what syntactic position preverbs occupy. Given that preverbs are aspectual markers it would be natural to associate them with an aspectual projection. In a minimally complex system, all preverbs should occupy either the inner or outer aspect projection. A system where some preverbs occupy the inner aspect and some the outer aspect projection is, although more complex, also possible. At the extreme, we can have a system where a given preverb can alternatively occupy either one of these two positions. In what follows, I will argue that Russian strives for the simplest of these possible systems.

Given the complexity of the Russian data, whether preverbs occupy the *v*P-internal inner aspect projection or the *v*P-external outer aspect projection is not easy to determine. Not surprisingly, in the literature we find opposing views. While some researchers claim that Russian preverbs, being telicity markers, encode inner aspect (Kipka, 1990, Piñon 1995, Krifka 1992, Schoorlemmer 1995, Borer 2005 among others), others following traditional view on aspect maintain that preverbs should be associated with outer aspect (Stoll 2003, Pereltsvaig 2005).

There are also researchers who classify Slavic preverbs on morphological rather than semantic grounds. Here too we find disagreement. Thus, while Filip (1999, 2000, 2003) argues that all preverbs in Slavic are derivational morphemes, Svenonius (2004) and Romanova (2004) divide them into two groups, along the line which is standardly assumed to separate derivational morphemes from inflectional ones. Note that from a morpho-syntactic perspective, derivational morphemes are considered to be *v*P-internal,

[110] Although prefixation is the most productive morphological process of perfective formation, it is by no means the only process that can yield perfective forms. Apart from preverbs, Russian has a number of others perfective markers, e.g., the semelfactive prefix *-nu*. The existence of these other markers, however, does not refute the claim that preverbs are morphological markers of perfectivity.

[111] The aspectual system that I adopt in this dissertation explains why SIs do not constitute a counterexample to this statement. Recall that SIs are non-perfective verbs that contain a preverb in their structure, e.g., ***pere****-čity-****va****-l* "reread-SI". The imperfectivity of SIs results from the suffixation by *-va* which applies after the prefixation and turns a perfective stem into the imperfective verb. As long as a prefixed stem surfaces by itself, the resulting verb is perfective. We will come back to the issue of SIs later on in this chapter.

whereas inflectional morphemes – *v*P-external.[112] Svenonius (2004) and Romanova (2004) are not the only researchers that assume that some preverbs occupy the inner aspect projection and some the outer aspect projection. Recently, this view has become a very popular one (Borik 2002, Slabakova 2005, Ramchand 2004).

Not only is there no agreement on what aspect preverbs mark, neither is there agreement on which criteria to use in determining whether a preverb occupies an inner or an outer aspect projection, namely morpho-syntactic criteria (Svenonius 2004, Filip 2003), or syntactico-semantic criteria (Krifka 1989, 1992, Schoorlemmer 1995 and Borik 2002).

Although both of these approaches have been used in the literature, they have not resulted in the same findings. Thus, based on various morpho-syntactic diagnostics, Svenonius divides Russian preverbs into *lexical* and *superlexical*, assuming that the former occupy the *v*P-internal aspectual position and the latter the *v*P-external aspectual position. Borik (2002) approaches the classification of Russian preverbs by relying on their semantic rather than morpho-syntactic function. Specifically, she assumes that only preverbs that render the bases they attach to telic occupy the inner aspect projection. For her, non-telic like preverbs are species of outer aspect. To determine the telicity status of Russian verbs she uses various telicity diagnostics. At a first glance, Borik reaches the same conclusion as Svenonius, given that she also divides Russian preverbs into two groups: those associated with the *v*P-internal inner aspect projection and those with the *v*P-external outer aspect projection. Nonetheless, her grouping differs from Svenonius's one. That is to say that Svenonius (2004) and Borik (2002) single out different sets of preverbs belonging to outer and inner aspects. In the next subsection, I will point out some problems with Svenonius (2004) and Borik (2002), and argue that both of them have reached a false conclusion. But before we do that let us consider the traditional classification of Russian preverbs.

4.3.1.1.1. Classification of Russian preverbs

Traditionally, Russian preverbs are divided into different classes, depending on their meanings. Although the classification varies from researcher to researcher, there is a

[112] We will see the justification behind this standard assumption later on in this dissertation.

general tendency, which I adopt in this dissertation, to group Russian preverbs into three major semantic classes: completive, inceptive and delimitative preverbs, where completive preverbs supply an event with the final boundary, inceptive preverbs – with the initial boundary and delimitative preverbs – with both the initial and final boundaries (see section 4.2).[113]

Apart from a classification that relies on the preverbs' ability to modify events, Russian preverbs are also classified according to their ability to modify the meaning of the verbal roots they attach to. As we have seen in the previous section, in Russian, there are lexically 'filled' preverbs, i.e., preverbs that endow the root with a new meaning or new shades of meaning, and lexically 'empty' preverbs, i.e., preverbs that do not alter the overall meaning of the root. Traditionally, the former class is known as *lexical* preverbs and the latter class as *grammatical* preverbs (Vinogradov 1972).

Currently, some researchers propose to further separate Russian prefixes into *lexical* and *superlexical* (Svenonius 2004). Unfortunately, the dividing line between these two groups is not well-defined and also raises the question of whether the class of *grammatical* prefixes of Russian structuralists forms a separate group or simply a subgroup within superlexical prefixes. To understand the division between *lexical* and *superlexical* prefixes advanced by Svenonius (2004) we need to make a short excurse into the development of generative morphological theory.

In the late 1970's generative linguists proposed two distinct 'places' for word-formation (Wasow 1977): while derivational morphological processes operate in the lexicon, inflectional morphological processes happen in syntax. Inflectional processes were considered to be a reflex of the syntactic operation of then standardly assumed *affix-hopping*. Several diagnostics were proposed to determine whether word-formation was lexical or syntactic/functional. I list these diagnostics in (7):

[113] In the traditional Russian literature, the semantic gradation is usually more refined. For instance, Fortunatov (1899) divides completive verbs into *obče resultativnye* (generic resultatives) and *special'no resultativnye* (special resultatives). Likewise, some researchers single out the preverbs *ot-* and *do-* as *finitive* verbs (Fortunatov 1899). Note that all these verbs have a common property: they all encode an end-point or *telos* of the event they are describing. I, hence, unite these verbs under one umbrella, as completive verbs.

(7) Lexical/Functional diagnostics:

#	Lexical Affixation	Syntactic/Functional Affixation
1.	Are at best semi-productive: e.g., ***un***-*tie*, but ****un***-*write*	Are productive: e.g., *tie*-***s***, *write*-***s***
2.	Change in lexical category is associated with lexical formation: e.g., [*work*]$_{V}$ → [*work*-***er***]$_{N}$	Do not change the syntactic category: [114] e.g., [*work*]$_{V}$ → [*work*-***s***]$_{V}$
3.	Idiosyncrasy in form and meaning is associated with lexical formation: e.g., *black board* ≠ "board that is black"	Have a predictable form and 'transparent' meaning that does not depend on root's meaning: e.g., *book*-***s*** "book-plural" *crayon*-***s*** "crayon-plural"
4.	Cannot attach "outside" of syntactic affixes: e.g., *writ*-***er***-*s*, but **writ*-*s*-***er***	Attach "outside" of lexical affixes: e.g., *writ*-*er*-***s***, but **writ*-***s***-*er*

In the mid 80's the theory of Strict Lexicalism was born (Levin and Rappaport 1986, Di Sciullo &.Williams 1987). According to this theory, all morphological processes were pre-syntactic and applied in the lexicon.

If we look at the state of affairs today, we see that only those accounts which assume that all morphological processes are syntactic are compatible with the Minimalist Program (Chomsky 1995, 2001). Within Distributed Morphology (DM) (Hale & Marantz 1993, Marantz 1997) – a morphological theory compatible with the Minimalism Program that I assume – the operation MERGE is not only responsible for the combination of words into sentences, but also for the combination of morphemes into words. Even words with idiosyncratic meanings are believed to be derived compositionally in syntax (within the *v*P-domain), as long as they consist of distinct morphemes.[115] The difference between idiosyncratic and non-idiosyncratic forms derived from the same root is at large 'encyclopaedic'.[116]

[114] English prefixes constitute the exception to this generalization. Even though they do not change the syntactic category of the stem they attach to, they are considered to be derivational and, hence, lexical.

[115] This suggests that Russian prefixed verbal forms containing lexically empty and lexically filled prefixes are both derived in syntax.

[116] In the DM framework, Encyclopedia relates Vocabulary Items to their meanings. For instance, the Encyclopedic entry for the Russian root *pisa*- will specify that in the environment of *na*-, *pisa*- will be

Despite this new view on morphological processes, the notion of two places of word-formation is often carried over into syntax. There is a strong tendency to view lexical or 'morphologically inner' (Dubinsky & Simango 1996) word-formation processes as operating within a particular syntactic domain, while 'morphologically outer' (Dubinsky & Simango 1996) non-lexical processes as applying outside of this domain. In the case of verbal predicates this defining domain is a *v*P-domain which appears under different names in the literature: *l-syntax* (Hale and Keyser 1993), *the root domain* (Embik & Marantz 2006) or *first-phase syntax* (Ramchand 2008).

In the spirit of this new view on word-formation processes, Svenonius (2004) reintroduced a slightly modified version of diagnostics in (7) in an attempt to classify Slavic verbal prefixes. The rational behind his attempt is to see which preverbs are *lexical* or *v*P-internal and which are *superlexical* or *v*P-external.

The diagnostics proposed by Svenonius (2004) are listed below:

(8) Diagnostics (Svenonius 2004)

Lexical	*Superlexical* [117]
1. resultative/quantized meanings	temporal/spatial meanings
2. carry idiosyncratic meanings	have 'systematic/predictable' meanings
3. able to alter verb's argument structure	do not alter verb's argument structure
4. can take the suffix *-va*	cannot take the suffix *-va*
5. cannot iterate/stack[118]	can stack outside lexical prefixes

Unfortunately, while each of these diagnostics does divide Russian prefixes into two groups, *lexical* and *superlexical*, these groups differ from diagnostic to diagnostic. This fact alone invalidates the reliability of at least some of these diagnostics. In order to be valid, the classification of Russian preverbs should be unvarying and independent of the type of the diagnostic used.

It should come as no surprise that any attempt to uniformly classify Russian prefixes depending on their semantic meaning or ability to change the meaning or the argument structure of the verbal roots they attach to inevitably leads to a dead end. Not

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interpreted as "write", while in the environment of *pod-*, *po-*, *iz-*, *za-*, *o-* etc., it will receive a special, idiosyncratic meaning: "sign", "write up", "write all over", "write down", "describe" respectively.

[117] Some typical examples of Svenonius's superlexical prefixes are: inceptive *za-*, terminative/ finitive *ot-/do-*, delimitative *po-/ pro-*, cumulative *na-*, repetitive *pere-* , attenuative *po-*, distributive *po-*.

[118] Provided that all lexical prefixes occupy the inner aspect projection, they should not co-occur.

only do Russian preverbs not behave uniformly with respect to these characteristics, they are also not clearly dividable into a simple di- or even trichotomy. This is well demonstrated in Romanova (2004), who proposes at least four distinct syntactic positions for Russian preverbs. Some researchers list each preverb individually, without even trying to classify them into any well-defined semantic groups (Vinogradov 1972, Tikhonov 1998). The problem with these analyses is obvious. How does one acquire such an unanalysable system? This question is especially imperative from the point of view of this dissertation, given that its primary objective is to investigate L2 acquisition of Russian aspect. But before we turn to the discussion of acquisition issues, let us see whether Svenonius's diagnostics can tell us anything about the syntactic status of Russian prefixes.

4.3.1.1.2. Testing Svenonius's (2004) diagnostics

i. Resultative vs. temporal meaning

This diagnostic asserts that only lexical prefixes produce a verb with a resultative meaning, while superlexical prefixes endow the base they attach to with a non-resultative temporal meaning. But how do we distinguish one meaning from another? According to Svenonius (2004), a *prefix-V DP* sequence with a resultative meaning can be paraphrased as "CAUSE DP to BECOME [prefix-V]$_{AdjP}$.[119] But which part of this paraphrase is responsible for resultative semantics? Although Svenonius (2004) does not elaborate on this issue, it seems to me that the crucial part for availability of the 'resultative' reading is

[119] On p.215 Svenonius (2004) provides the meaning of resultative for English particle constructions: "V DP Prt can usually be paraphrased as cause DP to… become Prt by means of V-ing" or 'V such that DP goes to or becomes Prt.' I took liberty of translating this formula to accommodate Russian prefixed examples. Note that Slavic preverbs cannot be stranded from the verb in a way it is done in English. To accommodate this fact, I modified Svenonius's 'definitions' of resultatives in line with Dowty's (1979) semantic decomposition analysis. Note that in my analysis, Russian verbs do not contain 'by means of V-ing' phrase in their semantic structure. This is because Russian AdjP that describes the target state already contains the verbal root. Besides, the only way to translate *by*-V-ing into Russian is by using the IMP form of the verb. This form, however, is imcompatible with the semantic paraphrase of a PERF verb: *Petja po**stroi**l dom* "Petja built a house" = *Petja* CAUSED *dom* "house" to-BECOME *po**stroe**nnym* "built", ****stroi**v ego* "*by*-building it". Using the PERF equivalent of *by*-phrase, however, is extremely odd, since such a phrase would repeat the information provided by the AdjP: *Petja* CAUSED *dom* "house" to-BECOME *po**stroe**nnym* "built", ???*po**stroi**v ego* "having-built it" I, thus, eliminate this phrase from the semantic decomposition analysis of Russian verbal predicates.

the presence of the target/resultant state (encoded by an adjectival phrase in Russian) along with the predicate BECOME that introduces this target state.[120]

To demonstrate how this diagnostic works consider the phrase consisting of the perfective verb *pod-pisat'* and the DP *pis'mo* "to sign a/the letter". Because this phrase can be paraphrased as to CAUSE *pis'mo* "a/the letter" to BECOME *pod-pisannym* "signed", the prefix *pod-* is considered to be lexical.

However, if we take verbs that contain some of the prefixes that have been claimed to be superlexical by Svenonius and his followers, we will see that they also contain an adjectival phrase that describes the 'resultant' state along with the predicate BECOME:

(9) Repetitive *pere-* and cumulative *na-*

a. *Petja pere-čital* *(*knigu*) "Petja re-read a/the book" →
Petja CAUSED *knigu* "a/the book" to BECOME *pere-čitannoj* "reread-PP".

b. *Maša na-rvala* *(*cvetov*) "Masha picked up flowers" →
Masha CAUSED *cvety* "the-flowers" to BECOME *na-rvannymi* "picked up-PP".

(10) Inceptive *za-*

a. *Petja za-pel'* (*pesnju*) "Petja started signing (a/the song)" →
Petja BECAME *pojuč'im* (*pesnju*) "signing (a/the song)-AP".[121]

b. *Kompjuter za-rabotal* "The computer started working" →
Kompjuter "the-computer" BECAME *rabotajuš'im* "working-AP".

(11) Delimitatives *pro-* and *po-*

a. *Petja pro-sidel v tjurme* *(*5 let*) "Petja stayed in prison (for 5 years)" →
Petja BECAME *prosidevšim v tjurme 5 let* "having stayed in prison for 5 years" = *sidjašim*-AP *v tjurme* "staying in prison", and, then, 5 years later, *ne sidjašim v tjurme* "not staying in prison".

b. *Petja* (*nemnogo*) *po-čital* (*knigu*) "Petja read (a/the book) (for a while)" →
Petja BECAME *počitavš'im nemnogo* (*knigu*) "having read (a/the book) for a while" = *čitavš'im* (*knigu*)-AP "reading (a/the book)" and, then, after a while, *ne čitavš'im* (*knigu*) "not reading (a/the book)".

[120] Thus, both of his paraphrases in ft. 119 contain BECOME.

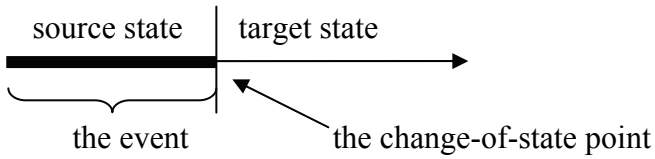
[121] Note that in the case of inceptive and delimitative verbs, an *active* participle (AP) rather than a *passive* participle (PP) is used. (To compare, in English APs are marked with *-ing*, e.g., *a running man*, while PPs are usually marked with *-ed/-en*, e.g., *the apple eaten after dinner*). Moreover, while the PP is prefixed, the AP is prefix-free. This may suggest that inceptive and delimitative preverbs merge directly into Asp_Q, while completive preverbs originally merge somewhere inside AdjP and then move (remerge) into Asp_Q.

Because the verbs *perečital* and *na-rvala* in (9) are completive verbs, they can easily be paraphrased using the predicate BECOME, just as completive *pod-pisat'* "to sign" above. This diagnostic, thus, classifies repetitive *pere-* and cumulative *na-* as lexical prefixes, contra Svenonius's claim.

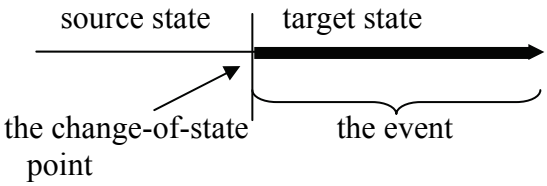
As can be seen from the data in (10) and (11), even verbs that are not strictly resultative, in its traditional sense, such as inceptive and delimitatives, can be paraphrased using BECOME. Let us see why this is so.

The semantic structure of inceptive verbs can be deduced from a comparative analysis of their temporal structures with the temporal structure of completive verbs. According to Russian structuralists, the distinction between completive and inceptive verbs is that while the former specify the end-point of events, the latter specify their beginning-point. To put it differently, whereas the event encoded by a completive verb ends with a change-of-state (12), the event encoded by an inceptive verb begins with a change-of-state (13).

(12) Temporal schema of completive verbs:



(13) Temporal schema of inceptive verbs (traditional):

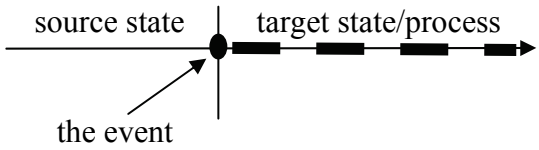


Before we proceed with our analysis of inceptive verbs, recall that Russian inceptive verbs encode punctual (psych-like or unaccusative-like) non-volitional[122] events (Vostokov 1831), e.g., *za-bole-t'* "to become sick", *za-govori-t'* "to start talking",

[122] Interestingly, the inceptive verb *za-rabotat'* is fine with the non-volitional subject *komputer* "computer", but not with the volitional subject *mal'čik* "the boy", revealing the 'unaccusative-like' nature of this inceptive verb. Note that with animate subjects *za-rabotat'* receives a completive reading, e.g., *Mal'čik zarabotal mnogo deneg* "The boy earned (by working) a lot of money."

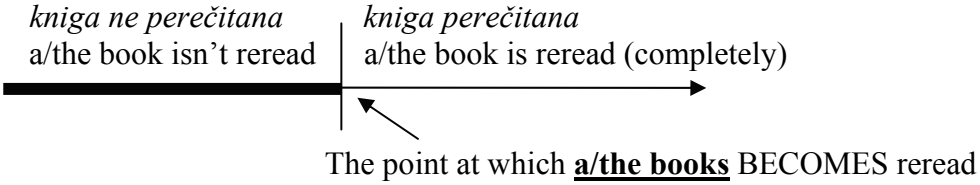
za-zvuchat' "to start making sound". Atypical examples of these verbs appearing with a volitional subject are instances of coercion.[123] This means that, technically, Russian inceptive verbs encode a transition that results in a 'new' process/state. That is to say that their structure does not include a process/state subevent.[124] They simply entail this process/state. This is why it would be more accurate to represent inceptive events as a point on the temporal diagram, with the process/state that they lead to not being part of their structure. To reflect this observation in the temporal schemas of inceptive verbs provided throughout this dissertation, the process/state part that inceptive verbs entail is depicted using a dashed line.

(14) The temporal schema of inceptive verbs:



Crucially, while in the case of completive verbs, it is the surface object that undergoes the change of state (see 15 - 16), in the case of inceptive verbs, it is the surface subject that does so (see 17 - 18):

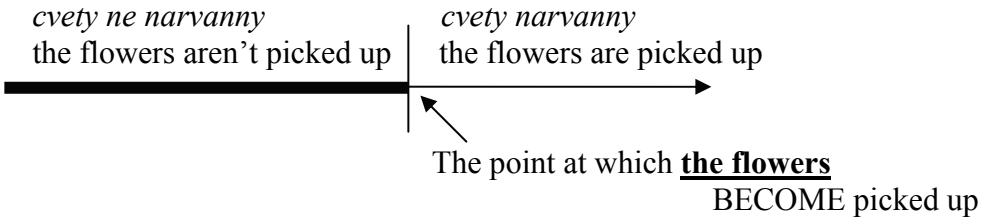
(15) The temporal schema of *Petja **pere**čital *(knigu)* "Petja reread (a/the book)"



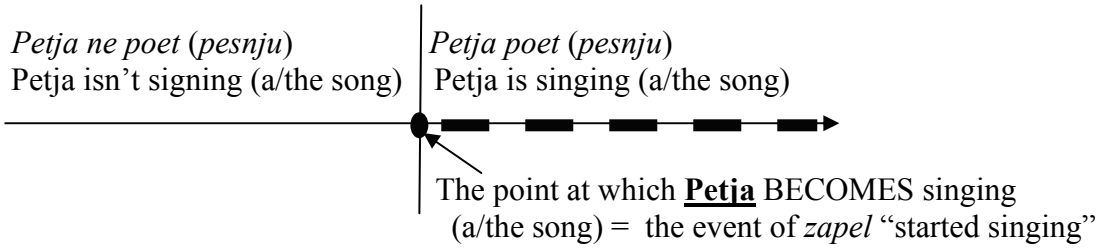
[123] The claim that these verbs are non-volitional is rather intuitive. Due to coercion, the diagnostic using *deliberately* does not reveal whether these verbs are volitional or not. Unfortunately, I lack space and time to find more reliable tests. Nonetheless, it seems to me that even inceptive verbs such as *za-govorit'* "start talking" emphasises the subject's change-of-state, from non-speaking to speaking, rather than the volitionality of the event.

[124] Because Russian inceptive verbs do not contain a process subpart they are incompatible with *za-* adverbials. I will provide the relevant data in section 4.3.1.5.1which is dedicated to Russian achievements.

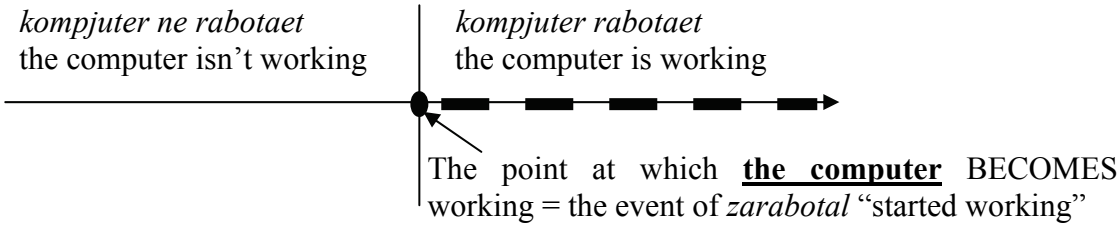
(16) The temporal schema of *Maša* ***na****rvala* **(cvetov*) "Masha picked up (the flowers)"



(17) The temporal schema of *Petja* ***za****pel* (*pesnju*) "Petja started to sign (a/the song)"



(18) The temporal schema of *Computer* ***za****rabotal* "The computer started working":



These data suggest that, while events that encode a final boundary quantify over the surface object, events that encode an initial boundary quantify over the surface subject.[125]

In the case of inceptive verbs it is the surface subject that serves as the Undergoer argument, i.e., the surface subject is 'the subject' of the predicate BECOME. Thus, the adjectival phrase describes the target state of the surface subject and not that of the surface object, via an active participle (AP) rather than a passive participle (PP), as shown in (10), repeated below for convenience:

[125] This may explain why inceptive verbs, unlike completives, do not form passive participles (PP): ***s****-petaja*-COMP *pesnja* "song that has been sung (completely)" vs. ****za****-petaja*-INC *pesnja* "song that has been started-singing".

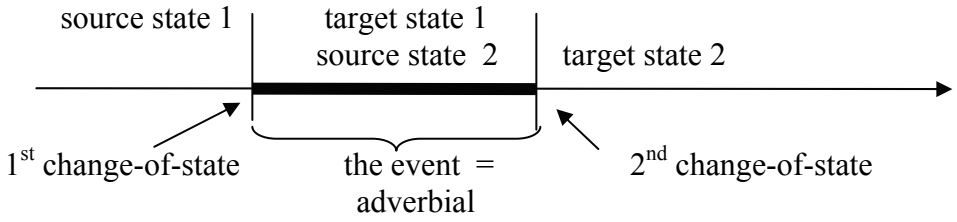
(19) Inceptive *za-*

a. *Petja za-pel'* (*pesnju*) "Petja started signing (a/the song)" →
Petja **BECAME** *poju*č*'im* (*pesnju*) "singing (a/the song)-AP".

b. *Kompjuter za-rabotal* "The computer started working" →
Kompjuter "the-computer" **BECAME** *rabotajuš'im* "working-AP".

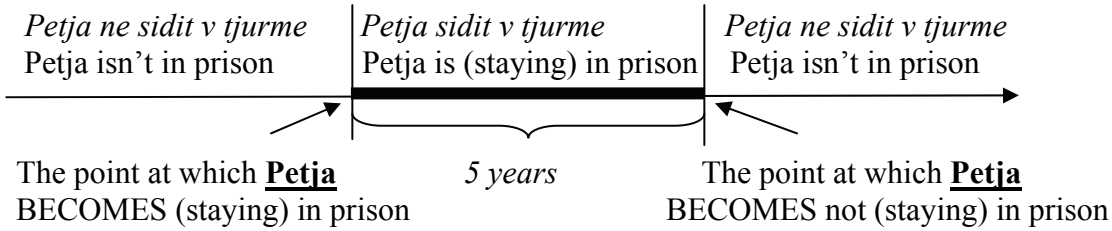
As for delimitative verbs, their temporal schema reveals that they contain two changes of state: one that coincides with event's initial point and one that coincides with its final point:

(20) The temporal schema of delimitative verbs:



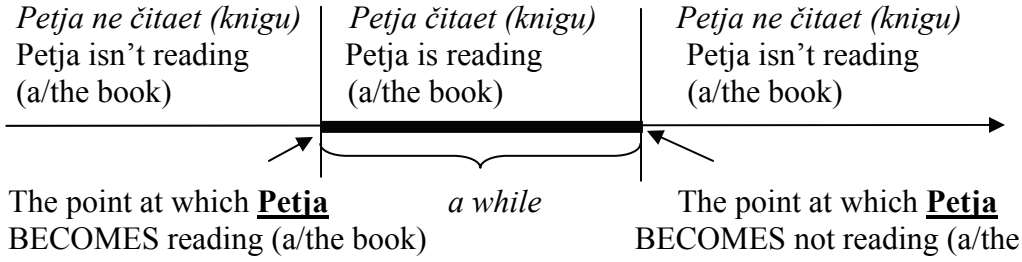
The duration of a delimitative event is equal to the duration specified by the adverbial that the given verb selects for.

(21) The temporal schema of *Petja pro-sidel v tjurme* *(*5 let*) "Petja stayed in prison for 5 years":



Note that duration of delimitative verbs containing the prefix *po-* is set by default to *a while*, regardless of whether the adverb *for a while* is overt or covert.

(22) The temporal schema of *Petja po-čital* (*knigu*) "Petja read (a/the book) for a while":



Although verbs with *po-* do not require presence of an overt durative adverbial, they can appear with one. This adverbial must be of short duration, however, suggesting that its role is to specify the actual boundaries of the default adverbial *for a while.* This is why this additional adverbial is incompatible with the overt *for a while*:

(23) *Petja* *(nemnogo) po-*čital 5 minut.*
'Petja read *(for a while) for 5 minutes.'

The durative nature of delimitative events led researchers to conclude that delimitative prefixes are not lexical. Contrary to this claim, I believe that delimitative verbs, just like other prefixed verbs, are 'resultative'. Their durative nature can be explained by the fact that they always appear with a durative adverbial, overt or covert. We will discuss at length the exact structure of delimitative verbs in the section dedicated to their phrase structure.

Note that, similar to inceptive verbs, delimitative verbs quantify over the surface subject and not over the surface object. Thus, in (21) and (22), it is the surface subject that undergoes the change(s)-of-state. The fact that in the case of delimitative verbs it is the surface subject rather than the object that functions as the Undergoer argument is reflected in (11), repeated below in (24). Here, the subject of the predicate BECOME is identical to the surface subject and not to the surface object. Because delimitative verbs quantify over the subject, the adjectival phrase that is the complement of BECOME in (21), (22) as well as (24) describes the target state of the surface subject and not of the surface object. This is done by means of an active rather than passive participle: [126, 127]

[126] Similarly to inceptive verbs and in opposition to completive verbs, delimitatives do not form passive participles (PP): ***pro-****čitannaja*-COMP *kniga* "book that has been read (completely)" vs. ****po-****čitannaja*-COMP *kniga* "book that has been read (for a while)". I believe that this failure to form a PP is an outcome

(24) Delimitatives *pro-* and *po-*

a. *Petja pro-sidel v tjurme* *(*5 let*) "Petja stayed in prison (for 5 years)" →
Petja BECAME *prosidevšim v tjurme 5 let* "having stayed in prison for 5 years" = *sidjašim v tjurme* "staying-AP in prison", and, then, 5 years later, *ne sidjašim v tjurme* "not staying-AP in prison".

b. *Petja* (*nemnogo*) *po-čital* (*knigu*) "Petja read (a/the book) (for a while)" →
Petja BECAME *počitavš'im nemnogo* (*knigu*) "having read (a/the book) for a while" = *čitavš'im* (*knigu*) "reading (a/the book)-AP" and, then, after a while, *ne čitavš'im* (*knigu*)-AP "not reading (a/the book)".

To recap, the temporal schemas of completive, inceptive and delimitative verbs suggest that they all contain at least one change-of-state.[128] In the system developed here, this means that all of these verbs contain the predicate BECOME in their syntactic and semantic structure. Given that a change of state, by definition, implies the presence of a target/resultant state, the semantic (as well as syntactic) structure of all these verbs must contain an adjectival phrase that describes this target state. If the adjectival phrase that describes the target state is the sufficient conditions for a 'resultative' interpretation, then our discovery suggests that all verbs in (9)-(11) have a 'resultative' meaning, although not in the traditional sense of this term.[129]

In sum, according to the *Resultative meaning* diagnostic the Russian repetitive *pere-*, cumulative *na-*, inceptive *za-*, delimitative *pro-* and *po-* are, contra Svenonius (2004), all lexical. Overall, this diagnostic does not make any distinction between Russian preverbs. Let us turn to the *Idiosyncratic meaning* diagnostic next.

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of their structure. Schoorlemmer (1995) claims that only transitive prefixed perfective verbs can form a PP in Russian. As we have already seen, it is not sufficient for a prefixed perfective verb to have an internal argument. This internal argument should also be the Undergoer argument. Thus, *počitat' knigu* "read a book (for a while)" does not form a PP, as shown above, despite the fact that it appears with an internal argument. This is because *kniga* "a book" here is not the subject of BECOME, as shown in (24b).

[127] I find it intriguing that delimitative verbs share these properties with inceptive verbs. These properties of delimitative verbs suggest that, similarly to inceptive verbs, they are achievements. Just as inceptive verbs, delimitative verbs merely encode a change-of-state that results in a 'new' process/state. Nonetheless, they differ from inceptive verbs in one important way: they select for a durative, covert or overt, adverbial. It is this adverbial that delimits the 'target' process/state entailed by delimitative-achievement. This is the analysis that I will adopt while discussing delimitative verbs in section 4.3.1.5.1.

[128] In this section, the claim that Russian inceptive and delimitative verbs encode a change-of-state is based solely on native speakers' intuition. In the next section, however, I will show that these verbs, being telic, must indeed encode at least one transition.

[129] That is to say that they are not completive.

ii. Idiosyncratic meaning

Svenonius (2004) and Romanova (2004) use the availability of idiosyncratic meaning to determine syntactic positions of Russian prefixes. In particular, they claim that prefixes that carry an idiosyncratic meaning are *v*P-internal, while prefixes that have a predictable/systematic/transparent meaning are *v*P-external.

I believe that there is a fundamental flaw in their line of reasoning. While the claim that idiomatic and idiosyncratic formation is *v*P-internal (Marantz 1984) is widely accepted, there are no theoretical postulates that force one to analyze non-idiosyncratic formation as *v*P-external. Because *v*P-internal processes may but do not have to be idiosyncratic, the implication is uni- rather than bidirectional. If a given morpheme endows the base it attaches to with an idiosyncratic meaning, then it must attach within the *v*P. If, on the other hand, the morpheme has a predictable/transparent meaning, then we cannot tell, from this fact alone, whether it attaches inside or outside the *v*P.

Contradicting his own argumentation, Svenonius analyses English verbal particles uniformly as *v*P-internal, regardless of whether they are idiosyncratic or have a predictable meaning, e.g., *sleep in* vs. *dig out*. It is unclear why for him semantic idiosyncrasy is important only in Russian and not in English. Svenonius's contradictory analyses are especially surprising, given that he draws the reader's attention to numerous similarities between Slavic verbal prefixes and Germanic verbal particles.

Apart from the purely theoretical problems with Svenonius's and Romanova's use of the *Idiosyncratic meaning* diagnostic, there are some empirical reasons to believe that prefixes that they list as superlexical are in reality *v*P-internal. Let us look at Svenonius's prototypical examples of superlexical prefixes to see why this is so.

(25) a. inceptive *za-*

za*-pet'* "start to sing-PERF"
za*-rabotat'* "start to work-PERF"
za*-plakat'* "start to cry-PERF"

b. delimitative *po-*

po*-čitat'* "read for a while-PERF"
po*-tancevat'* "to dance for a while-PERF"
po*-rabotat'* "to work for a while-PERF"

c. repetitive *pere-*

***pere**-čitat'* "to reread-PERF"
***pere**-delat'* "to redo-PERF"

d. distributive *pere-*

***pere**-bit'* "to brake one by one-PERF" (from Svenonius 2004)
***pere**-kidat'* "to throw one by one-PERF"
***pere**-kusat'* "to bite one by one-PERF"

One glance over the data in (25) suffices to establish that the prefixes in all of these examples have a systematic meaning. Thus, *za-* in (25a) has an inceptive meaning "start to do smth", *po-* in (25b) has a delimitative meaning "to do something for a while", *pere-* in (25c) has a repetitive meaning "to redo something" and *pere-* in (25d) has a distributive meaning "to do something one by one". In fact, these prefixes have been labelled by Russian structuralists as inceptive, delimitative, repetitive and distributive, depending on their meaning. The important question to ask in relation to these prefixes is whether it is true that the prefixation by these specific prefixes applies outside the *v*P.

In this section, I will claim that if we look beyond the transparent meaning of the inceptive *za-*, delimitative *po-* and distributive or repetitive *pere-*, we will find several characteristics that indicate that the prefixation process even by these preverbs is *v*P-internal. For one thing, the inceptive *za-*, delimitative *po-* and distributive or repetitive *pere-* do not freely attach to all verbal roots. To demonstrate let us look at the prefix *za-*. We can have ***za**-pet'* meaning "start to sing-PERF" but not ***za**-čitat'* meaning #"start to read" or ***za**-est'* meaning #"start to eat".[130] The same can be said about the delimitative prefix *po-* and distributive or repetitive *pere-*. *po-* is interpreted as delimitative with the root *čita-* "read", but not with the roots *dari-* "give (as a gift)" and *kara-* "punish". Similarly for *pere-*: in ***pere**-ždat'* "*pere*-wait = to wait until it is over" and ***pere**-kurit'* "*pere*-smoke = to smoke (during the break)", *pere-* does not receive a repetitive or distributive reading. This observation suggests that in Russian the process of prefixation with the inceptive *za-*, delimitative *po-* and repetitive or distributive *pere-* is non-productive. But non-productive processes are standardly associated with the *v*P-internal projection.

[130] Note that these verbs are grammatical, but not with an inceptive reading. ***za**-čitat' knigu* means "to read the book to a state of appearing old", and ***za**-est'* means "to eat something after eating something else".

Not only is the prefixation with the inceptive *za*-, delimitative *po*- and repetitive or distributive *pere*- non-productive, but also the class of bases that these prefixes can attach to is not syntactically or semantically definable. Take for instance, Vinogradov's (1972) attempt to identify, on semantic grounds, a class of roots that yield an inceptive meaning with *za*-. He claims that *za*- receives an inceptive interpretation when appearing with motion and psych-like roots, or roots describing any sort of sound manipulation, including speech (p. 419). However, Vinogradov's generalization fails to account for the inceptive verbs that have roots that do not fall under this description, e.g., ***za**-rabotat'* "start to work-PERF", ***za**-pljasat'* "start to dance-PERF".

Vinogradov is not the only person who failed to categorize the roots according to their ability to yield a specific reading with a given prefix. To the best of my knowledge, no linguist has succeeded in uniformly classifying the roots which force a prefix they combine with to acquire a specific meaning. This should come as no surprise, given the colossal complexity of the data. According to Efremova's (2000) Russian derivational dictionary the prefix *za*- has 11 different meanings and *po*- and *pere*- have 6 meanings each. It looks as if Russian native speakers simply memorize what interpretation a given prefix-ROOT combination can have. For example, they have to memorize that *za*- has an inceptive meaning, when combined with the root *pe*- "sing", but a completive meaning, when combined with the root *ši*- "saw". But the memory driven processes look suspiciously like encyclopaedic knowledge akin to idiosyncrasy. Whatever this knowledge is, there is one thing we can say for sure: to evaluate whether a given *za*-ROOT combination can receive an inceptive, or the other 10 meanings for that matter, the semantic information about the root should be 'visible' to the prefix.

The data related to the prefix *po*- are even more complex, as this prefix can have a whole range of interpretations: a delimitative (as in 25b), inceptive, completive or distributive one, depending on the root it combines with, e.g., ***po**-ljubit'* "*po*-love = to <u>start</u> loving/to fall in love", ***po**-letet'* "*po*-fly = to <u>start</u> flying", ***po**-krasnet'* "*po*-blush = <u>become</u> red/to blush", ***po**-myt'* "*po*-wash = to wash <u>completely</u>", ***po**-razbivat'* "*po*-break = to break <u>one by one</u>", ***po**-vybrasyvat'* "*po*-throw out = to throw out <u>one by one</u>". Vinogradov (1972) notices this semantic versatility of *po*-. He states: "the prefix *po*- has various, almost opposite, meanings that sometimes depend on the lexical meaning of

verbal bases and sometimes result from combination with the same base" (p.419). His example of the second type is the verb ***po**-sporit'* "to argue-PERF" which is compatible with both a completive and delimitative interpretations. In any case, to evaluate which interpretation of *po-* we are dealing with, especially when it comes to distinguishing between delimitative and completive *po-*, both of which attach to dynamic roots, we need to access the meaning of the root.

As can be seen from the data in (25), the prefix *pere-* also exhibits meaning ambiguity. Thus, with the roots in (25c), it favours a repetitive interpretation, while with the roots in (25d) a distributive one. With the root *žda-* "wait", it can receive neither of these two interpretations. Once again, to determine which meaning of *pere-* we are dealing with, we must have access to the root's meaning.

In sum, the prefixation by the inceptive *za-*, delimitative *po-* and distributive or repetitive *pere-* is root-dependent. However, information about the root is only accessible to the elements that appear within the same phase as the root, i.e., within the *v*P (Marantz 2007). If so, then to obtain a legitimate derivation, *za-*, *po-* and *pere-* must attach to the root *v*P-internally.[131]

The complexity of Russian goes in the other direction as well. Not only does a given preverb not have one single meaning, but also a given meaning does not necessarily get encoded by one single preverb. For instance, in Russian *pere-* is not the only prefix that can encode distributivity. The prefix *po-* can also do so. Svenonius (2004) notices this fact: "Russian distributivity can be signalled by *pere-* or by *po-*, without it being obvious why some bases only combine with the one (***pere**-lomat'* 'break one by one') and some with the other (***po**-padat'* 'fall one after the other'), with apparently the same semantic effect" (p.233). One important consequence of this observation is that distributive *po-* and *pere-* apparently cannot occupy the *v*P-external aspectual projection. For if they did, then to decide which one of them is appropriate would require accessing the root's meaning, which, as argued above, is impossible from the *v*P-external position. There is, however, a morpho-syntactic distinction between the distributive verbs with *po-* and *pere-*. The distributive verbs with *po-* generally contain the SI suffix *-va*, as well as

[131] This statement is not true for the prefixation that relies on morpho-syntactic information of the stem. As we will see shortly, in Russian the distributive prefix *po-* clearly attaches above the *v*P. The stems that this prefix attaches to have a different morpho-syntactic structure from other stems.

the outer aspect position associated with this morpheme. Thus, these verbs obligatorily contain three aspectual morphemes, e.g. ***po-vy-****brosy-****va-****t'*** "to throw away one by one-PERF", ***po-raz-****bi-****va-****t'*** "to break one by one-PERF", with ****po-vy-****brosi-****t'*** "to throw away one by one-PERF", ****po-raz-****bit'* "to break one by one-PERF" being ungrammatical.[132] The distributive *pere-*, on the other hand, does not require the base to be inflected with *-va*. The perfective verbs with the distributive *pere-* contain only one aspectual morpheme, e.g., ***pere-****bit'* "to break one by one". This observation suggests two things: (1) the distributive *pere-* is *v*P-internal, (2) the distributive *po-* attaches above *-va*.[133]

The conclusion that we can draw from our brief analysis of Russian distributive morphemes is that while Russian has prefixes that attach above the (internal) *v*P, e.g., distributive *po-*, the distributive *pere-* is not one of such prefixes. Moreover, the fact that 'real superlexical' prefixes attach to verbs containing *-va* suggests that they cannot occupy the same position as *-va*. [134]

Just as Svenonius (2004) and Romanova (2004) use idiosyncratic meaning of verbs to argue for existence of lexical and superlexical prefixes, Babyonyshev and Kavitskaya (2006) use the aspectual properties of Russian idioms to divide prefixes into *lexical* and *grammatical*, along the same line as Russian grammarians do. Although their division does not coincide with that of Svenonius or Romanova, it suffers from the same problems. To show why this is so, consider briefly their argument. Babyonyshev and Kavitskaya's analysis of Russian idioms reveals that the verb inside an idiom allows for aspectual alternation, as long as we do not alter its basic meaning. This implies that the moment we add a lexically 'filled' prefix to the root, the idiomatic meaning becomes

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[132] Of course, this is not true for the verb *po-padat'* "to fall one by one" that Svenonius (2004) uses as his example. It seems as if here the prefixation is not syntax dependent but rather dependent on the root's meaning. If so, it must be analyzed as *v*P-internal. Note that, as shown by Romanova (2007), the majority of *po-* distributives do contain the SI suffix *-va*, *po-padat'* "to fall one by one" being the only exception that I can think of.

[133] This may also be true of the prefix *na-* that can attach on top of an SI stem, e.g., *na-vy-dumy-va-t'* "to imagine various things", although the robustness of this process is not clear to me, so I leave it to further research.

[134] As I will argue later in this dissertation, Russian perfective verbs always contain an Asp_QP filled by a preverb. If so, then the fact that verbs with the distributive *po-* are perfective suggests that in their case, the *v*P-external aspectual projection containing *-va* (with all its internally merged projections) is embedded under an Asp_QP headed by *po-*, i.e., [$_T$ [$_{AspQP}$ ***po-*** [$_{AspP}$[$_{vP}$ [$_{AspQP}$ ***vy-***[$_{VP}$ *brosa-*]]] ***-va***]] ***-t'***] "to throw out one by one". To put it differently, although the Russian distributive *po-* does not merge within the 'lower' *v*P-phase, it is nonetheless species of inner aspect and not outer aspect.

unavailable. On the other hand, lexically 'empty' prefixes do not disrupt the idiomatic interpretation:

(26) Adapted from Babyonyshev and Kavitskaya (2006):

a. Vanja stavil/ ***po***-stavil/ ****vy***-stavil/ ****pere***-stavil Dashu na mesto.
Vanja put-IMP/ put-PERF/ put out-PERF/ move-PERF Dasha in place.
'Vanja put Dasha in her place.'

b. Vanja bil/ ***po***-bil/ ****vy***-bil/ ****na***-bil baklushi.
Vanja beat-IMP/ beat for a while-PERF/ break off-PERF/ beat-PERF splinter.
'Vanja frittered away time.'

Babyonyshev and Kavitskaya (2006) attribute this behavioural distinction between, on one hand, lexically 'filled' or simply *lexical* prefixes and, on the other hand, lexically 'empty' or *grammatical* prefixes to their syntactic differences, with lexical prefixes occupying a *v*P-internal and grammatical prefixes a *v*P-external position.[135] Leaving aside the question of whether or not non-idiomatic morphology must be *v*P-external, let us focus on some properties of Russian verbs that suggest that Babyonyshev and Kavitskaya's analysis is on the wrong track.

In Russian, the ability of a preverb to alter the root's meaning depends on the meaning of the root. The same preverb may leave the meaning of some roots unchanged, while altering the meaning of other roots, e.g., ***pro***-*čitat'* "*pro*-read = to read (completely)-PERF", ***pro***-*tolknut'* "*pro*-push = to push <u>through</u>-PERF", ***pro***-*dat'* "*pro*-give = to <u>sell</u>-PERF", ***pro***-*dut'* "*pro*-blow = to <u>lose</u>-PERF". In fact, there is no way to predict, without consulting the root's meaning, which of the preverbs has a purely perfectivizing/grammatical function. For instance, with the root *čita*- "read" such a prefix is *pro*-, but with the root *pisa*- "write" it is *na*-. Babyonyshev and Kavitskaya's system, however, overgenerates, as there is no mechanism that can prevent the verbs ***na***-*čitat'* and ***pro***-*pisat'* from receiving the interpretation "to read (completely)-PERF" and "to write (completely)-PERF" respectively. These perfective forms, however, never receive these

[135] Specifically, they assume that lexically empty prefixes occupy the same position as the SI suffix -*va*. But if so then these prefixes should never appear with -*va*. Nonetheless, they do. Recall that Russian allows for aspectual triplets as long as the semantic function of a primary and secondary imperfective does not coincide: *pit'* "to drink-PI" – *vy-pit'* "to drink-PERF" – *vy-pi-va-t'* "to drink (iterative)-SI".

specific interpretations, but rather an idiosyncratic meaning, i.e., ***na***-*čitat'* + the reflexive -*sja* means "to read a lot/to ones content" and ***pro***-*pisat'* means "to prescribe".

To accommodate the problem at hand, I assume that purely perfectivizing prefixes, being root-dependent, are *v*P-internal. This assumption goes against Babyonyshev and Kavitskaya's (2006) claim. It also implies that the ungrammatical forms in (26) violate a non-syntactic restriction.

Actually, there is an alternative, much simpler, explanation than the one proposed by Babyonyshev and Kavitskaya (2006) as why the *v*P's idiomatic meaning is lost when the verbal root merges with the prefix that changes its meaning. By altering the root's meaning the lexically 'filled' prefix also alters, by extension, the meaning of the entire idiom. Because the prefixation by a lexically 'empty' prefixes does not changes the meaning of the verb, the *v*P preserves its idiomatic meaning. One does not need to postulate a syntactic distinction between these two types of prefixes to explain the data in (26).

To conclude, in this section I have argued that the process of prefixation by what Svenonius (2004), Romanova (2004), Babyonyshev and Kavitskaya (2006) claim to be *v*P-external prefixes is root-dependent, with no definable characteristics that can be attributed to the class of roots that can take these prefixes. This observation has led us to the conclusion that prefixation by Svenonius's *superlexical* prefixes as well as by Babyonyshev and Kavitskaya's *grammatical* prefixes is memory dependent, similar to other *v*P-internal lexical processes. Moreover, I have shown that these processes are non-productive. These idiosyncratic-like attributes of the Russian inceptive *za*-, delimitative *po*-, distributive and repetitive *pere*- as well as of Russian lexically 'empty' prefixes suggest that they occupy a *v*P-internal aspectual position. As the outcome of our analysis, we have established that in Russian only the distributive *po*- is not internal to the 'lower' *v*P. Crucially, the bases that take the distributive *po*- have a different morpho-syntactic structure from bases that host other prefixes.

iii. Ability to alter the verb's argument structure

It has been noted by many researchers that while some Russian verbal prefixes alter the verb's underlying argument structures, others do not do so (Filip 1999, Babko-Malaya

2003). For instance, in Russian, verbs that are optionally transitive when appearing in imperfective are obligatory transitive when appearing in perfective:

(27) a. Petja čital (knigu).
Petja read-IMP book.
'Petja was reading (a/the book).'

b. Petja **pro**čital *(knigu).
Petja read-PERF book.
'Petja read a/the book.'

c. Petja **pere**čital *(knigi).
Petja *pere*-read-PERF books.
'Petja reread/read one by one the books.'

(28) a. Petja pel (pesnju).
Petja sing-IMP song.
'Petja was singing(a/the song).'

b. Petja **s**pel *(pesnju).
Petja sang-PERF song.
'Petja sang a/the song'

Thus, while the imperfective forms of the verbs "to read" and "to sing" can be intransitive as in (27a) and (28a), their perfective forms, either with the same meaning as in (27b) and (28b) or with a different meaning as in (27c), must be transitive.

Similarly, perfective counterparts of imperfective verbs that can appear without an NP or with a non-complement NP can promote this NP to a complement, i.e., can promote the underlyingly oblique argument (from the periphery) into an obligatory (core) argument:

(29) a. Petja plyl (čerez reku). (from Filip 1999)
Petja swim-IMP across river.
'Petja was swimming (across the river).'

b. Petja **pere**-plyl (čerez) reku.
Petja *pere*-swim-PERF across river-ACC.
'Petja swim-across (across) the river.'

However, not all preverbs select for an obligatory internal argument. There are two types of verbal prefixes that do not exhibit this behaviour, i.e., delimitative preverbs such as *po-* and inceptive preverbs such as *za-*.

(30) a. Petja **po**čital (knigu).
Petja *po*-read-PERF book.
'Petja read (a/the book) for a while.'

b. Petja **za**pel (pesnju).
Petja *za*-sign-PERF song.
'Petja started to sing a/the song.'

Svenonius (2004) attributes the ability to alter the verb's argument structure to a property of lexical, *v*P-internal, prefixes. He then assumes that the preverbs that do not change the verb's argument structure are superlexical, and hence, *v*P-external. Somewhat disturbingly, this diagnostic only classifies two of the prefixes that Svenonius claims to be superlexical as superlexical. Curiously, the repetitive and distributive *pere-*, exemplified in (27c), patterns with other prefixes.

In what follows, I would like to pinpoint why inceptive and delimitative verbs do not require an obligatory object to yield a legitimate structure. The answer to this question relies on the observation that these prefixes encode the inceptive-like change-of-state with a surface subject and not the surface object being the Undergoer argument. Consider, once again, the semantic decomposition of these verbs as compared to that of completive verbs repeated below for convenience:

(31) a. Repetitive *pere-*
Petja pere-čital *****(*knigu*) "Petja re-read a/the book" →
Petja CAUSED ***knigu*** "a/the book" to BECOME *pere-čitannoj* "reread".

b. Inceptive za-
Petja za-pel' (*pesnju*) "Petja started singing (a/the song)" →
Petja BECAME *poju*č*'im* (*pesnju*) "singing (a/the song)".

c. Delimitative *po-*
Petja (*nemnogo*) *po-čital* (*knigu*) "Petja read (a/the book) (for a while)" →
Petja BECAME *po*č*itavš'im nemnogo* (*knigu*) "having read (a/the book) for a while" = *čitavš'im* (*knigu*) "reading (a/the book)" and, then, after a while, *ne čitavš'im* (*knigu*) "not reading (a/the book)".

In (31a) the surface object is obligatory, since it serves as the Undergoer argument the presence of which is necessary for licensing a telic interpretation of the verb ***pere**čitat'* "to reread".[136] In (31b) and (31c), it is the surface subject and not the object that serves as the Undergoer argument and procures, along with the preverb, a telic interpretation of the verbal predicates. Hence, inceptive and delimitative verbs do not 'select for' a surface object. Importantly, in (31a) the subject cannot be the Undergoer, given that the verb ***pere**čitat'* encodes quantification over the object and not over the subject. Thus, we have solved the enigma of perfective verbs' argument structure, without dividing Russian preverbs into lexical and superlexical.

So far we have been dealing with diagnostics that rely on what traditionally can be thought of as lexical properties of Russian prefixes. The next two diagnostics use morpho-syntactic behaviour of Russian prefixed verbs. Let us discuss these diagnostics.

iv. Ability to form secondary imperfectives/take the suffix *-va*

The present diagnostic states that only stems that carry lexical prefixes can serve as base for attachment of the SI suffix *-va*. Superlexical prefixes, occupying the same position as *-va* (Babyonyshev and Kavitskaya 2006) or a syntactic position above *-va* (Svenonius 2004), do not take *-va*. Let us see whether this diagnostic supports the classification advanced by Svenonius (2004) or Babyonyshev and Kavitskaya (2006).

Svenonius (2004) divides Russian preverbs, with respect to this diagnostic, into 3 groups:

1. Preverbs that almost never allow secondary imperfective

(i) *za-* inceptive

e.g., *za-barabanit'* + *-va* → **za-barabani-va-t'* "begin to drum",
za-kurit' + *-va* → ??*za-kuri-va-t'* "start smoking a cigarette/light up a cigarette"

(ii) *ot-* terminative[137]

e.g., *ot-užinat'* + *-va* → **ot-užiny-va-t'* "finish dining" (Svenonius 2004),
ot-rabotat' + *-va* → ???*ot-rabaty-va-t'* "finish working for some period of time"

[136] I assume that Russian telic predicates, just like English ones, require the presence of an Undergoer argument. I will justify this requirement later in this chapter.

[137] Terminative or finitive *ot-* is a non-productive archaic preverb in Russian that is becoming replaced by the completive *po-*.

(iii) *pere-* distributive
e.g., *pere-bit'* + *-va-* → **pere-bi-va-t'* "breaking one by one",
pere-kleil + *-va-* → *pere-klei-va-t'* "glue one by one"

2. Preverbs that sometimes allow secondary imperfective

(i) *na-* cumulative:
e.g., *na-žarit'* + *-va-* → **na-žari-va-t'* "frying a sufficiently large quantity of something"[138]

(ii) *pere-* excessive
e.g., *pere-solit'* + *-va* → *pere-sali-va-t'* "to over salt",
pere-rabotat' + *-va* → *pere-rabaty-va-t'* "to overwork"[139]

(iii) *po-* delimitative
e.g., *po-čitat'* + *-va* → *po-čity-va-t'* "reading from time to time",
po-rabotat' + *-va* → **po-rabaty-va-t'* "working from time to time"

3. Preverbs that usually allow secondary imperfectives

(i) *iz-* completive
e.g., *iz-bit'* + *-va-* → *iz-bi-va-t'* "to beat up",
iz-lečit' + *-va* → *iz-leči-va-t'* "to cure"

(ii) *pere-* repetitive
e.g., *pere-delat'* + *-va-* → *pere-dely-va-t'* "to do again",
pere-pisat' + *-va* → *pere-pisy-va-t'* "to rewrite"

(iii) lexical prefixes

Unlike Svenonius (2004), Babyonyshev and Kavitskaya (2006) have only two classes: *lexical* (lexically 'filled' prefixes) and *grammatical* (lexically 'empty' prefixes), claiming that only the former allows for *-va* suffixation.

As we can immediately see from Svevonius's classification, the *-va* diagnostic is not perfect. Not only does it classify some of Svenonius's superlexical prefixes as lexical, i.e., the completive *iz-* and repetitive *pere-*, it also fails to categorize a class of preverbs with ambiguous behaviour as purely lexical or superlexical. In other words, it does not support a clear-cut division between Svenonius's lexical or superlexical prefixes. Neither does it support Babyonyshev and Kavitskaya's syntactic distinction between lexical and

[138] Svenonius (2004) notes that *na-* allows for secondary imperfectivization only when its meaning shifts to 'quantitative'. Unfortunately he gives no example of grammatical SI with *na-*. I cannot think of one either.
[139] I did not find any ungrammatical example of a SI formed from a stem containing the excessive *pere-*.

grammatical prefixes, given that some verbs with lexically 'empty' prefixes do allow for SIs.[140]

Importantly, Svenonius's, as well as Babyonyshev and Kavitskaya's, analyses cannot explain the grammaticality of the Russian SI verbs containing a 'non-lexical' prefix (superlexical or grammatical prefixes respectively) along with *-va*, since for such forms to be legitimate a non-lexical prefix must occupy an aspectual position 'below' *-va*. To save his analysis Svenonius proposes that prefixes that allow for *-va* are generated *v*P-internally, but then move out to a higher aspectual position. This solution seems to be completely ad hoc. The question remains, how do we know, especially in the case of verbs with prefixes that are ambiguous, when a prefix is generated *v*P-internally and when *v*P-externally?

Besides, there are other, semantic or morpho-syntactic reasons, why some verbs do not form SIs. Take for instance, the class of verbs that carry lexically 'empty' prefixes. These verbs indeed often cannot appear with *-va*: e.g. **na-pisy-va-t'* "to write-SI", **po-stroi-va-t'* "to build-SI". As has been mentioned before, the illegitimate forms are ruled out by encyclopaedic knowledge rather than by any syntactic principle. Only those SI verbs that are listed in speaker/listener's 'encyclopaedia' are judged grammatical, e.g., *pro-čity-va-t'* "to read-SI (iterative)", *vy-pi-va-t'* "to drink-SI (iterative)". In short, while *-va* can freely attach to stems that have not acquired an idiosyncratic meaning in the process of prefixation, the resulting structure is evaluated against the Russian speaker's encyclopaedic knowledge and may indeed be ruled out if non-existent.

As for inceptive *za-* and terminative/finitive *ot-*, it is the achievement-like near-instantaneous nature of the verbs that carry these prefixes that prohibits them from taking *-va*. While we have already discussed the fact that Russian inceptive verbs encode near-instantaneous events, let us see why this is also true in the case of Russian finitive verbs. Just like inceptive verbs, finitive verbs attach to non-volitional psych-like/unaccusative bases, e.g., *ot-bole-t'* "to finish being sick", *ot-zvuchat'* "to finish making sound". Even with activity-like roots, *ot-* seems to simply describe the termination of a passive participation in an activity, similarly to English expression "be done with": *ot-užinat'* "be done with dining", *ot-rabotat'* "be done with working", *ot-sluzhit'* "be done with serving

[140] Recall that Russian does allow for aspectual triplets, whereby perfective forms that do not acquire a new meaning in the process of prefixation do undergo *-va* suffixation.

(in military service)". All *ot-* does is supply the state/process encoded by the base with a final point. This state/process, however, is not part of the finitive event itself. This is why Russian finitive verbs are incompatible with readings that presuppose duration, as shown in (32):

(32) a. *Petja potratil ½ časa, čtoby **ot**užinat'.
Petja spent ½ an hour for *ot*-eat-dinner-PERF.
'Patja spent ½ an hour to be done with eating dinner.'

b. *Petja **ot**bolel za 3 dnja.[141]
Petja *ot*-was-sick-PERF in 3 days.
'Patja was done being sick in 3 days.'

Being achievements, both inceptive and finitive verbs resist *-va* suffixation, just like English achievements resist progressivization.[142]

Determining why other preverbs listed by Svenonius do not take *-va* is beyond the scope of this dissertation.[143] However, even without a thorough examination of these prefixes, it should be evident that the suffixation by the secondary suffix *-va* in Russian cannot be explained by syntactic differences between lexical and superlexical/ grammatical prefixes. There seem to be other morpho-syntactic and semantico-pragmatic requirements that guide this process. Overall, the SI diagnostic should not be used to classify Russian preverbs into lexical and superlexical.

[141] We will see why Russian achievements are incompatible with *za-X-time* "in-X-time" adverbials in section 4.3.1.5.1.

[142] Similarly to English achievements, the rare SI forms that they allow for receive an iterative or slow-motion interpretation (Rothstein 2004):

(iv) a. Každuju vesnu Petja **za**bole**va**l.
Every spring Petja *za*-sick-SI.
'Every spring, Petja was getting sick.'

b. Petja medlenno **za**bole**va**l.
Petja slowly *za*-sick-SI.
'Petja was slowly becoming sick.'

[143] Filip (1999) points to some semantic reasons why verbs with cumulative *na-* resist secondary imperfectivization. She believes that this may be due to the fact that *na-* actually reiterates some inherent semantic feature of the verb and, hence, cannot take an iterative marker *-va*. As for distributive *pere-*, secondary imperfectivization may also be blocked due to its iterative-like, distributive meaning.

v. Ability to stack

The ability of Russian prefixes to stack is the most unwelcome empirical fact for the analysis advocated in this thesis, given that this analysis postulates that Russian prefixes are *v*P-internal and, hence, should not be able to stack. Nonetheless, I what follows I will argue that the cases of multiple prefixation in Russian do not support the analysis advocated by Svenonius (2004). The claim that I am going to make at the end of our investigation is that Russian preverbs, except for the distributive *po-* and perhaps repetitive *pere-*, occupy inner aspect projection.

Let us begin our investigation of prefix stacking by examining whether the analysis advanced by Svenonius (2004) who assumes a division between lexical and superlexical prefixes can account for multiple prefixation in Russian. In principle, in Svenonius's system superlexical prefixes should be able to freely attach on top of lexical prefixes, given that superlexical prefixes occupy the *v*P-external AspP, while lexical prefixes occupy the *v*P-internal AspP. Importantly, the order of prefixes must be fixed, with superlexical prefixes occurring on the 'outside', as shown in (33). Also note that stacking of lexical or superlexical prefixes is problematic.

(33) $\text{PREFIX}_{\text{superlexical}}$-$\text{PREFIX}_{\text{lexical}}$-ROOT-AGR/T

While from a purely theoretical perspective Svenonius's analysis seems to account for multiple prefixation, it runs in all sorts of empirical problems. For one thing, it predicts that stacking of prefixes should be a productive phenomenon. However, Russian generally resists multiple prefixation, e.g., *pere/po* + *pod-pisat'* "to sign-PERF" → **perepodpisat'*/**popodpisat'* "sign one by one". In fact, apart from the distributive *po-* that attaches to the SI base and to some extent the repetitive *pere-*, the instances of stacking in Russian are extremely rare. This is why many researchers view them as exceptions (Kipka 1990). In Tikhonov's (2002) Morpho-orthographic dictionary, out of 1450 verbs that begin with *za-* (either perfective or imperfective), none had two consecutive aspectual prefixes.[144] The same holds of the delimitative *po-*. I have not found any example where delimitative *po-* was able to attach to a base that already

[144] There were some examples of *za-* attaching on top of the negative prefix *ne-*, which is clearly not an aspectual prefix, e.g., ***za-ne**-moč'* "*za-not*-being able = to become sick".

contains another prefix (and lacks *-va*). But if the inceptive *za-* and the delimitative *po-* are prototypical superlexical prefixes, then why are they unable to attach on top of lexical prefixes? There is no mechanism in Svenonius's system that would block such an attachment.

In one of the most cited examples of double prefixation, the ability of the 'external' preverb to stack depends on its ability to modify the base it attaches to. Here I have in mind spatio-directional motion-like verbs with two prefixes, e.g. *stat'* "stand" – ***v-stat'*** "stand up" – ***pri-v-***stat' "stand up half way through". In this example, the preverb *pri-* is allowed to attach to already prefixed base ***v-****sta-*, since it further modifies the spatial (directional) information of this base. Following Filip (2003), I assume that the prefix *pri-* does not 'add' another change-of-state but rather modifies the one that the event structure already has. This means that *pri-* does not license its own Asp_QP.

Intriguingly, the prefix *iz-*, classified by Svenonius (2004) as superlexical, attaches 'on the inside', when appearing with the repetitive *pere-*, e.g., *pere-iz-brat'* "to re-elect-PERF" and *pere-iz-dat'* "to re-publish-PERF". These examples argue against the superlexical status of *iz-*. In fact, *iz-* never attaches on the outside (of other preverbs). The examples above also suggest that the repetitive *pere-* can exceptionally attach to already prefixed bases. The attachment by the repetitive *pere-* seems to depend on the meaning of the base. Only bases with *iz-* that encode events that can be performed again can take this prefix, e.g., *iz-brat'* "to elect", *iz-dat'* "to publish". In contrast, bases with *iz-* that denote events whose results cannot be annulled are incompatible with *pere-*, e.g., **pere-iz-bit'* "to re-beat up", **pere-iz-učit'* "to re-learn".

The interesting thing about the repetitive *pere-* is that it seems to specify its own result that may be indeed different from the one specified by the base that *pere-* attaches to. For instance, *pere-iz-brat' prezidenta* often means to elect a president different from the one that was elected before. This suggests that *pere-* licenses its own AspP, which encodes a change-of-state distinct from the one encoded by the base. Yet, as we have seen, the repetitive *pere-* cannot freely attach to any base. Also, when attaching to a non-prefixed base, it must attach low, as it allows for the *-va* suffixation (see 4.2-iv). This suggests that the repetitive *pere-* can exceptionally license a second AspP within the *v*P, whose function is to 'override' the result obtained by the event encoded by the base that

pere- attaches to.[145] It is the ability of *pere-* to override the previously obtained result that allows it to trigger an exceptional embedding of two consecutive Asp_QPs.

Apart from *pere-* and *pri-*, the distributive *po-* can also exceptionally attach to suffixless bases that already contain a preverb, e.g., *po-na-stroit'* "to build (a quantity of) in many places".[146] Recall that normally the distributive *po-* attaches to the SI bases with *-va*, e.g. *po-vy-brasy-**va**-t'* vs. **po-vy-brosit'* "to throw out one by one-PERF", *po-pod-pisy-**va**-t'* vs. **po-pod-pisat'* "to sign one by one", *po-pere- čity-va-t'* vs. **po-pere-čitat'* "to reread one by one". It may well be that *po-na-stroit'* is exceptionally grammatical, because the verbs *na-stroit'* do not form a SI form with *-va*. Hence, in *po-na-stroit'*, *po-* attaches to a coerced version of *na-stroit'* – one that exceptionally contains a phonologically empty outer AspP. Yet, since the outer AspP is phonologically null, *po-na-stroit'* is mistakenly perceived as lacking the outer AspP. Note that our account of *po-na-stroit'* predicts that the distributive *po-* can attach to the base that lacks an overt marker in AspP only if originally this base does not allow for the *-va* suffixation. In any case, the distributive *po-* always occupies a *v*P-external aspectual projection. Moreover, since *po-* attaches to the base that is already inflected with *-va*, it must occupy an AspP that merges higher than the AspP occupied by *-va*.

In sum, Russian empirical data suggest that all aspectual prefixes, with the exception of the distributive *po-* and possibly the repetitive *pere-*, are lexical, as they do not easily attach to other prefixes.[147] Given time and space limitation, I leave the exact analysis of exceptional stacking of aspectual prefixes in Russian to further research.

The examination of Svenonius's (2004) diagnostics brings us to the conclusion that dividing Russian prefixes into *lexical* and *superlexical* is unjustified. The same is true of division of Russian prefixes into *lexical* and *grammatical* along the line proposed

[145] Alternatevely, we can assume that under special circumstances the repetitive *pere-* can occupy the *v*P-external AspP. Note, however, that this projection must be distinct from the outer AspP occupied by the suffix *-va*, given that the verbs, where *pere-* is attached to a prefixed base, can appear with *-va*, e.g., *pere-iz-da-va-t'* "republish-SI". Suspiciously, this projection resembles that of the inner AspP, in that it encodes a change-of-state. Perhaps, what we have here is an Asp_QP headed by *pere-* that takes an outer AspP (with all its subordinate nodes) as a complement. If choosing this structure one needs to explain why the repetitive *pere-* cannot freely attach to any prefixed base. Given time and space limitations, I will not elaborate on this alternative analysis any longer.

[146] Curiously enough, in this example *po-* attaches on top of the cumulatative *na-*, which Svenonius (2004) classifies as superlexical, suggesting, if anything, that *na-* is not superlexical, unless one postulates several syntactic positions for superlexical prefixes.

[147] Kozlowska-Macgregor (2002) also has distributive *po-* as superlexical in Polish.

by Babyonyshev and Kavitskaya (2006). The only aspectual prefix that is a legitimate candidate for being *superlexical*/*grammatical* is the distributive *po*- and possibly the repetitive *pere*-.[148] But even these prefixes occupy a projection distinct from the outer AspP.

In this section we have seen that the various morpho-syntactic diagnostics that we can find in the literature lead to the conclusion that the vast majority of Russian preverbs (with the exception of the distributive *po*- and possibly the repetitive *pere*-) form a single morpho-syntactic class. Let us see whether this finding can be confirmed by investigation of the semantic function of Russian preverbs.

4.3.1.1.3. Semantic function of Russian preverbs

As has been mentioned before, another way to determine what syntactic position Russian preverbs occupy is through determining their semantic function. If these preverbs are indeed associated with the inner aspect Asp_QP, as I have argued, then they should all be telicity markers. In other words, all prefixed verbs, non-inflected with *-va*, should be telic. And, as I will demonstrate in this subsection, this is exactly what we find in Russian.

One of the most influential works that investigates the telicity status of Russian prefixed verbs is that of Borik (2002). Using telicity diagnostics, Borik argues that Russian inceptive and delimitative verbs, unlike Russian completive verbs, are not telic, suggesting that not all preverbs are telicity markers. While this section is not intended as a full-fledged critique of Borik's work, it will demonstrate that the telicity diagnostics that we have determined to be reliable (in section 2.2.3.2.1) classify these exceptional groups of Russian perfective verbs as telic, contra Borik's claim. We will also see that Borer's (2005) definition of telicity that we have adopted as being able to accurately pinpoint telic predicates confirms the claim that Russian preverbs, with no exceptions, are telicity markers.

Let us see whether it is true that the standard telicity diagnostics fail to classify inceptive and delimitative verbs as telic, as claimed by Borik (2002).

[148] As we have seen the repetitive *pere*- always encodes a change-of state suggesting that it occupies an Asp_QP. The fact that the distributive *po*- turns an unbounded (secondary) imperfective event into a delimited perfective event – the function that, as we will see next, is reserved to an element occupying an $Asp_Q°$ – suggests that *po*- too occupies an Asp_QP. Note that this Asp_QP takes an AspP headed by *-va* as its complement.

4.3.1.1.3.1. Applying telicity diagnostics

i. Adverbial modification (Verkuyl 1972, Dowty 1979)

Recall that this diagnostic maintains that telic predicates can only be modified by frame adverbials of the *in X-time* type, e.g., *in an hour* as in (34a), whereas atelic predicates can only be modified by durative adverbials of the *for X-time* type, e.g., *for an hour* as in (34b):[149]

(34) a. Peter ran for an hour/*in an hour. ***atelic***
b. Peter ran a mile *for an hour/ in an hour ***telic***

Let us apply this diagnostic to three types of Slavic perfective verbs derived by prefixation.

(35) Completive verbs:

a. Petja čital gazety odin čas/*za odin čas. ***atelic***
Petja read-IMP newspapers one hour/*in one hour.
'Petja was-reading newspapers for an hour/*in an hour.'

b. Petja **pro**čital gazety *odin čas/za odin čas. ***telic***
Petja *pro*-read-PERF newspapers *one hour/in one hour.
'Petja read the newspapers *for an hour/in an hour.'
Lit: 'It took Petja one hour to finish reading the newspapers.'

(36) Inceptive verbs:

a. Kompjuter rabotal 15 minut/*za 15 minut. ***atelic***
Computer worked-IMP 15 minutes/*in 15 minutes.
'The computer was working for 15 minutes/*in 15 minutes.'

b. Kompjuter **za**rabotal *15 minut/za 15 minut.[150] ***telic***
Computer *za*-worked-PERF *15 minutes /in 15 minutes.
'The computer started to work *for 15 minutes /in 15 minutes.'
Lit: 'It took 15 minutes for the computer to start working.'

[149] While in English durative adverbials can exceptionally appear with dynamic telic verbal predicates, giving rise to a 'process' reading of accomplishments, they cannot do so in Russian, as can be seen from the example (35b). Hence, we can freely use durative adverbials to test the telicity status of Russian dynamic predicates, without worrying about accuracy of the obtained results.

[150] The majority of Slavic inceptive verbs are not only ungrammatical with durative but also with frame adverbials. This is because inceptive verbs encoding near-instantaneous events are incompatible with adverbials that presuppose any duration. Only inceptives that allow for a slow-motion reading, as *zarabotat'* "start-working" in (36b), can be modified by frame adverbials. Importantly, while inceptive verbs are marjinally acceptable with frame adverbials, they are absolutely incompatible with durative adverbials.

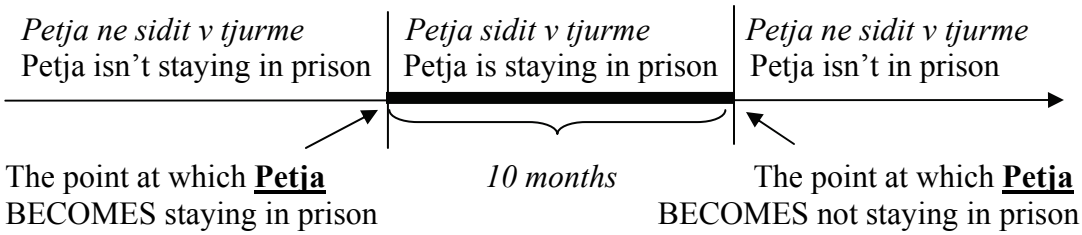
(37) Delimitative verbs with ***pro-***:

a. ?Petja sidel v tjur'me 10 mesjacev/*za 10 mesjacev. ***atelic***
Petja sat-IMP in prison 10 months/*in 10 months.
'Petja stayed in prison for 10 months/*in 10 months.'

b. Petja **pro**sidel v tjur'me 10 mesjacev /*za 10 mesjacev. ***atelic***
Petja *pro*-sat-PERF in prison 10 months/*in 10 months.
'Petja stayed in prison for 10 months/*in 10 months.' (adapted from Borik 2002)

As can be seen from the examples above, the Adverbial modification diagnostic classifies the completive ***pro**čital* along with the inceptive ***za**rabotal* as telic and the delimitative ***pro**sidel* as atelic. So, is Borik (2002) on the right track in claiming that delimitative verbs with *pro-* constitute counterexamples to the claim that all perfective verbs are telic? I believe not. What happened in (37b) is that the Adverbial modification diagnostic is not applied properly. To see why this is so recall that delimitative verbs with *pro-* obligatorily 'select' for an overt adverbial. So, we can have ***pro**sidet'*-PERF *v tjurme 10 mesjacev* "to stay in prison for 10 months", but not ****pro**sidet'*-PERF *v tjurme* "to stay in prison for ?". In other words, the adverbial in (37b) is part of the event structure encoded by the *v*P. This adverbial delimits the event, specifying its initial and final boundaries, as can be seen from the schema in (38):

(38) The temporal schema of *Petja pro-sidel v tjurme* *(*10 mesjacev*) "Petja stayed in prison for 10 months":



Hence, in (37b) the adverbial *for 10 months*, being a part of the event structure does not qualify as an extra adverbial the nature of which depends on the telicity status of the event. However, if we add an additional adverbial, as required by the Adverbial modification diagnostic, we will see that this second adverbial is a frame and not durative adverbial, which suggests that the event described by the delimitative verb ***pro**sidel* is telic:

(39) *Poslednie 3 goda/ za poslednie 3 goda Petja **pro**sidel ***telic***
*Last 3 years/ in last 3 years Petja *pro*-sat-PERF
v tjur'me 10 mesjacev. [151]
in prison 10 months.
'For the last 3 years/in the last 3 years Petja stayed in prison for 10 months.'

When it comes to delimitative verbs with *po-*, they are compatible with two adverbials, only if the original one, i.e., one that is part of the event, is *for a while*. Nonetheless, this suffices to prove the point that delimitative verbs behave as telic under the Adverbial modification diagnostic, once this diagnostic is applied properly:

(40) Delimitative verbs with ***po-***:
*Poslednie ½ časa/ za poslednije ½ časa Petja **po**guljal nemnogo ***telic***
*For last ½ an hour/ in last ½ an hour Petja *po*-walked for a while
v parke i **po**čital nemnogo gazety. [152]
in the park and *po*-read-PERF for a while newspapers.
'For the last ½ an hour/in the last ½ an hour, Petja walk in the park for a while and read the newspapers for a while.'

To recap, according to the Adverbial modification diagnostic, Russian completive, inceptive and delimitative verbs are telic. Let us now turn to the Homogeneity diagnostic.

ii. Homogeneity diagnostic

This telicity diagnostic asserts the existence of the entailment relation exemplified in (41) for atelic but not telic predicates:

(41) a. Peter ran for 1 hour. → Peter ran for ½ an hour. ***atelic***
b. Peter ran a mile in 1 hour. -/→ Peter ran a mile in ½ an hour. ***telic***

Let us apply this diagnostic to three types of Russian perfective verbs under discussion.

[151] When modiying a delimitative verb (together with the durative adverbial that this verb selects for), a frame adverbial does not exactly specify the duration of the process part of this event, in contrast to the examples where it simply modifies non-delimitative events (as in 34b). Despite this semantic difference, I take the fact that only frame adverbials are allowed to modify delimitative events to indicate that these events are telic.

[152] To make two adverbials more acceptable, and, hence, facilitate the judgments, I added yet another event that takes place during the interval of time described by the adverbials *for ½ an hour* or *in ½ an hour*.

(42) Completive verbs:

a. Petja čital gazetu 1 čas. → Petja čital gazetu ½ časa. ***atelic***
Petja read-IMP newspaper 1 hour → Petja read-IMP newspaper ½ an hour.
'Petja was reading a/the newspapers for an hour' → 'Petja was reading a/the newspapers for half an hour.'

b. Petja **pro**čital gazetu za 1 čas. -/→ Petja **pro**čital gazetu za ½ časa. ***telic***
Petja *pro*-read-PERF newspaper in 1 hour. -/→ Petja *pro*-read-PERF newspaper in ½ an hour.
'Petja read the newspaper in an hour.'-/→ 'Petja read the newspaper in half an hour.'

(43) Inceptive verbs:

a. Kompjuter rabotal 15 minut. → Kompjuter rabotal 10 minut. ***atelic***
Computer worked-IMP 15 minutes. → Computer worked-IMP 10 minutes.
'The computer was working for 15 minutes.' → 'The computer was working for 10 minutes.'

b. Kompjuter **za**rabotal za 15 minut. -/→ Kompjuter **za**rabotal za 10 minut. ***telic***
Computer *za*-worked-PERF in 15 minutes. -/→ Computer *za*-worked-PERF in 10 minutes.
'The computer started to work in 15 minutes.' -/→ 'The computer started to work in 10 minutes.'

(44) Delimitative verbs with ***pro-***:

a. Petja sidel v tjur'me 10 mesjacev. → Petja sidel v tjur'me 5 mesjacev. ***atelic***
Petja sat-IMP in prison 10 months → Petja sat-IMP in prison 5 months.
'Petja stayed in prison for 10 months.' → 'Petja stayed in prison for 5 months.'

b. Za poslednie 3 goda Petja **pro**sidel-PERF v tjur'me 10 mesjacev. -/→ ***telic***
Za poslednie 2 goda Petja **pro**sidel-PERF v tjur'me 10 mesjacev.
In last 3 years, Petja *pro*-sat-PERF in prison 10 months -/→ In last 2 years, Petja *pro*-sat-PERF in prison 10 months
'In the last 3 years, Petja stayed in prison for 10 months.' -/→ 'In the last 2 years, Petja stayed in prison for 10 months.'

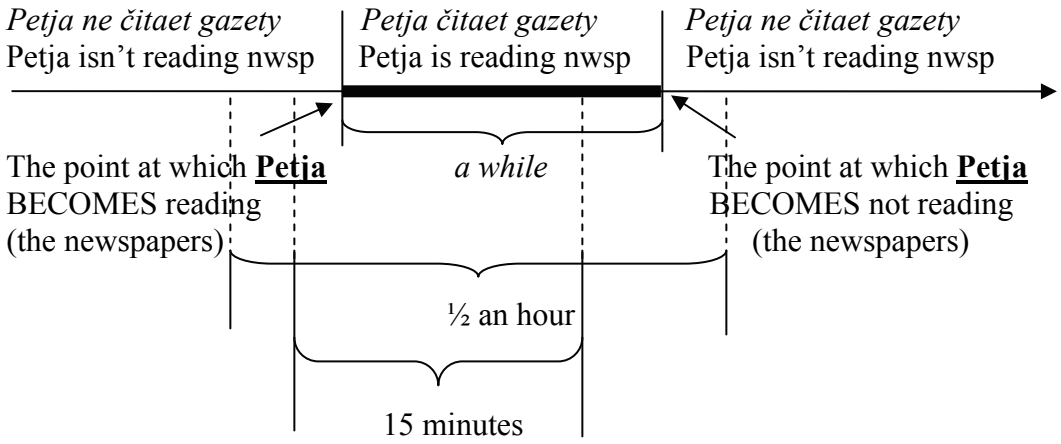
(45) Delimitative verbs with ***po-***:

a. Petja čital gazety 10 minut. → Petja čital gazety 5 minut. ***atelic***
Petja read-IMP newspapers for 10 minutes → Petja read-IMP newspapers for 5 minutes.
'Petja read the newspapers for 10 minutes.'→ 'Petja read the newspapers for 5 minutes.'

b. Za poslednie ½ časa Petja nemnogo **po**čital gazety. → Za poslednie 15 minut Petja nemnogo **po**čital gazety. ***?atelic***
For last ½ an hour Petja for a while read newspapers. → For last 15 minutes Petja for a while read newspapers.
'For the last ½ an hour, Petja read the newspapers for a while.' → 'For the last 15 minutes, Petja read the newspapers for a while.'

As can be seen from (45), the Homogeneity diagnostic classifies completive, inceptive and delimitative verbs with *pro-* as telic. At the first glance, the data in (45b) suggests that the delimitative verbs with *po-* are atelic, given that the entailment relation holds true. However, this relation is preserved because the adverbial *for a while* does not have definite boundaries. Thus, the two *for a while* in (45b) do not need to cover the same interval of time. In other words, it is not necessarily true that Petja read the newspapers for the same interval of time during *15 minutes* as he has read during *½ an hour*. This is demonstrated in the temporal schema below in (46):

(46) The temporal schema of *Petja nemnogo **po**čital gazety* "Petja read the newspapers for a while":



As can be seen from (46), whereas the *½ an hour* period contains the entire interval described by the original adverbial *for a while*, the *15 minutes* period may contain only part of it, which coincidentally can also be described as *a while*, given that a part of *a while* is also *a while*. The both *whiles* are, however, not the same. So, the availability of the entailment relation in (45b) is due not to the atelic nature of delimitative verbs with *po-* but rather to the flexible temporal boundaries of the adverbial *for a while*. These

verbs, thus, do not constitute a counterexample to the claim that all of Russian prefixed verbs are telic.

To sum up, according to the Homogeneity diagnostic, Russian completive, inceptive and delimitative verbs with *pro-* are telic. Because of the unspecified boundaries of the adverbial *for a while*, this diagnostic fails to properly classify Russian delimitative verbs with *po-*. Let us see next whether these findings are confirmed by the Conjunction diagnostic.

iii. Conjunction diagnostic

This diagnostic maintains that only atelic verbs allow for continuation of the event that they describe:

(47) a. Peter ran and is still running. ***atelic***
b. *Peter ate the apple and is still eating it. ***telic***

As discussed in section 2.2.3.2.1, the Conjunction diagnostic should not be applied to predicates that do not contain an end-point. That is it should not be applied to Russian inceptive verbs. Importantly, we can still apply it to test the telicity status of Russian completive and delimitative verbs, as both of these groups of verbs encode events that contain a final boundary: [153]

(48) Completive verbs:

a. Vo vremja obedennogo pereryva Petja čital knigu i vsjo eš'o ***atelic***
During lunchtime Petja read-IMP book and still
prodolžaet ejo čitat'.
continues it to-read-IMP.
'During lunchtime, Petja was reading a/the book and is still reading it.'

b. *Vo vremja obedennogo pereryva Petja **pro**čital knigu i vsjo eš'o ***telic***
During lunchtime Petja read-PERF book and still
prodolžaet ejo čitat'.
continues it to-read-IMP .
'During lunchtime, Petja read a/the book (completely) and is still reading it.'

[153] Unfortunately, the Conjunction diagnostic does not distinguishes between telicity and delimitedness – a notion defined in section 3.2. It simply singles out events that have a final end-point specified. It does not care in which way this point is encoded, syntactically or semantically. As we will see later in this dissertation, Russian delimitative verbs do not encode the event's final boundary syntactically (see 5.2.2).

The sentence in (48b) is ungrammatical, because it contains the telic verb ***pro**čitat'* "to read-PERF" which cannot continue past its completion point. In contrast, because the atelic verb *čitat'* in (48a) does not contain any boundaries it allows for continuation of the event it encodes.

It should come as no surprise that the Conjunction diagnostic classifies Russian completive verbs as telic, given their indisputably telic nature. Does it classify more problematic group such delimitative verbs as telic?

(49) Delimitative verbs with ***pro-***

a. 3 dnja nazad Petja sidel v tjur'me i vsjo eš'o prodolžaet ***atelic***
3 days ago Petja sat-IMP in prison and still continues
tam sidet'.
there to-sit.
'3 days ago Petja was in prison and he is still there.'

b. *Petja **pro**sidel v tjur'me pjat' let i vsjo eš'o prodolžaet tam ***telic***
Petja sat-PERF in prison 5 years and still continues there
sidet'.[154]
to-sit.
'Petja stayed in prison for 5 years and he is still there.'

(50) Delimitative verbs with ***po-***

a. Vo vremja obedennogo pereryva Petja čital gazety i ***atelic***
During lunchtime Petja read-IMP newspapers and
vsjo eš'o prodolžaet ix čitat'.
still continues them to-read-IMP.
'During lunchtime, Petja was reading (the) newspapers and is still reading them.'

b. *Vo vremja obedennogo pereryva Petja **po**čital gazety i ***telic***
During lunchtime Petja *po*-read-PERF newspapers and
vsjo eš'o prodolžaet ix čitat'.
still continues them to-read-IMP .
'During lunchtime, Petja read the newspapers (for a while) and is still reading them.'

[154] One must be careful not to confuse this perfective reading with the perfect reading that this sentence also has, whereby Petja has been in prison for 5 years *already* and is still there. Not only is the latter reading grammatical, but it is also the more salient one. In the perfect reading, however, the adverbial *5 years* represent only a part of the entire time of Petja's stay in prison, while in the perfective reading it represents the entire time.

The ungrammaticality of sentences (49b) and (50b) supports the claim that Russian delimitative verbs are telic, as in these examples the perfective verbs do not allow for continuation of the event that the delimitative verb encodes.

In sum, the Conjunction diagnostic classifies Russian completive and delimitative verbs as telic, while being unsuitable to test the telicity status of Russian inceptive verbs.

iv. Progressive-past tense entailment (Dowty 1979)

Recall that the Progressive-past tense diagnostic assumes an entailment relation between a past progressive and simple past forms of atelic but not telic predicates:

(51) a. Peter was eating apples. → Peter ate apples. ***atelic***
b. Peter was eating an apple. -/→ Peter ate an apple. ***telic***

As I will argue later in this dissertation, Russian non-stative primary imperfectives are interpreted as being unlimited in time not only because they lack an inner aspect projection (i.e., they are atelic) but most importantly because they contain an outer aspect projection, filled by the Ø-morpheme (i.e., they are unbounded). In other words, Russian non-stative primary imperfectives are structural equivalents of English progressive activities. Since Russian lacks the structure that corresponds to English 'simple'/non-progressive activities (i.e., dynamic atelic events), applying (51a) to Russian produces a tautology, whereby a PI → PI:

(52) Petja čital knigu → Petja čital knigu. ***atelic***
Petja read-IMP book → Petja read-IMP book.
'Petja was reading a/the book → Petja was reading a/the book.'

Although having a tautological statement in the case of IMP verbs is a bit odd, this shall not preclude us from using (51b) as a diagnostic, given that Russian IMPs (whether primary or secondary) do not entail their corresponding PERFs:

(53) Completive verbs:

a. Petja čital knigu -/→ Petja **pro**čital knigu. ***telic***
Petja read-PI book -/→ Petja *pro*-read-PERF book.
'Petja was reading a/the book.' -/→ 'Petja read the book (entirely).'

b. Petja **pere**čity**va**l knigu -/→ Petja **pere**čital knigu. ***telic***
Petja read-SI book -/→ Petja *pere*-read-PERF book.
'Petja was rereading a/the book.' -/→ 'Petja reread the book (entirely).'

Unfortunately, as has been argued in section 2.2.3.2.1-iv, the Progressive-past diagnostic is not suitable for testing telicity status of verbs that encode the initial boundary of an event, i.e., inceptive verbs. Because delimitative verbs contain not only the initial but also the final boundary, the Progressive-past diagnostic should yield a valid result with these verbs:

(54) a. Delimitative verbs with ***pro-***

Petja sidel v tjur'me -/→ Petja **pro**sidel v tjur'me pjat' let. ***telic***
Petja sat-IMP in prison -/→ Petja *pro*-sat-PERF in prison for 5 years.
'Petja was in prison.' -/→ 'Petja stayed in prison for 5 years.'

b. Delimitative verbs with ***po-***

Petja čital knigu. → Petja (nemnogo) **po**čital knigu. ***?atelic***
Petja read-IMP book → Petja (for a while) *po*-read-PERF book.
'Petja was reading a/the book.' → 'Petja read a/the book for a while.'

In agreement with the telicity diagnostics discussed so far, the Progressive-past diagnostic classifies Russian delimitative verbs with *pro-* as telic, given that these PERF forms are not entailed from their corresponding IMPs. Thus, in (54a), the fact that Petja spent some time in prison does not entail that he spent in the prison a period of 5 years, or any other well-defined period, for that matter. Note, however, that performing an action does entail that that action was performed for some unidentifiable period of time. In natural languages such not well-defined temporal interval can be expressed by *a while*. Because delimitative verbs with *po-* contain adverbial *for a while* in their denotation, the entailment relation between these verbs and their corresponding IMPs holds true, as shown in (54b). Yet, this entailment is 'caused by' unidentifiable boundaries of the adverbial *for a while* rather than the atelic nature of ***po**čital* "*po*-read-PERF". If, for instance, we equate boundaries of *a while* to *5 minutes*[155], then the entailment relation gets disrupted, as Petja's

[155] Recall that Russian delimitatives with *po-* can, in principle, occur with overt adverbials as long as these adverbials describe a short interval of time. As has been discussed before, this overt adverbial 'defines' the boundaries of the covert adverbial *for a while*.

reading of a/the book does not need to last 5 minutes. It could be that, in reality, Petja's reading of a/the book lasted 2 or 3 minutes. The IMP, being unbounded in time, does not provide us with length of the reading event:

(55) Delimitative verbs with ***po-***

Petja	čital	knigu.	-/→	Petja	**po**čital	knigu	5 minut.	***telic***
Petja	read-IMP	book	-/→	Petja	*po*-read-PERF	book	5 minutes.	

'Petja was reading a/the book.' -/→ 'Petja read a/the book for 5 minutes.'

To sum up, according to the Progressive-past tense diagnostic, Russian completive and delimitative verbs are telic. The diagnostic is non-applicable to Russian inceptive verbs, as these verbs encode an initial boundary – a boundary that this diagnostic is insensitive to.

Concluding this section we can state that, contrary to Borik (2002), telicity diagnostics classify Russian prefixed perfective verbs as telic, with no exceptions, suggesting that Russian preverbs are telicity markers.

4.3.1.1.3.2. Russian preverbs under further inspection

All linguists working on Slavic preverbs have noticed their quantificational abilities. In fact, the most popular definitions of perfectivity reflect some quantificational properties of preverbs. Traditionally, perfective verbs have been defined as *total* (Forsyth 1970), *completed* (Isačenko 1960) or *bounded* (Vostokov 1831, Fortunatov 1899). In more recent studies, they are portrayed as *telic* (Schoorlemmer 1995) or *quantized* (Krifka 1989, 1992). Filip (2000) summarizes previous findings by concluding that Slavic preverbs are "quantizing modifiers" whose semantic function is to encode quantized verbal events.

The question that I will try to answer in this subsection is: can Borer's (2005) definition of quantity – one that we have adapted as an empirically accurate definition of telicity (see 2.2.3.2.2.) – confirm our finding that all three classes of Russian prefixed perfective verbs are telic? To answer this question recall Borer's definition of quantity:

(56) P is ***homogenous*** iff P is *cumulative* and *divisive*:

i. P is *divisive* iff $\forall x\ [P(x) \rightarrow \exists y\ (P(y) \wedge y < x)] \wedge \forall x,y\ [P(x) \wedge P(y) \wedge y < x \rightarrow P(x\text{-}y)]$

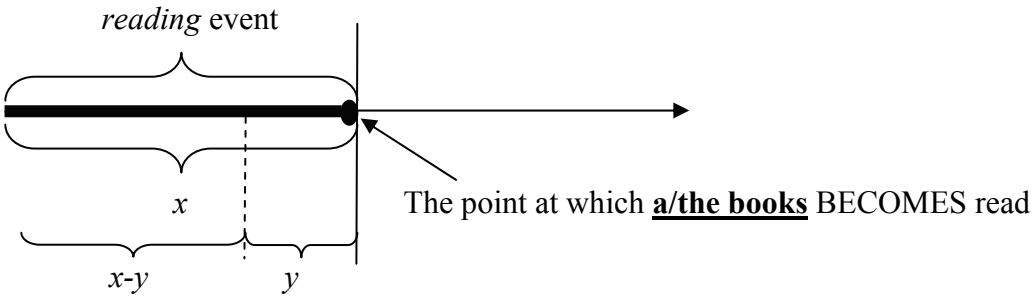
ii. P is *cumulative* iff $\forall x\ [P(x) \wedge P(y) \rightarrow P\ (x \cup y)]$
In words: P is cumulative iff whenever it applies to x and to y, it applies to the sum of x and y.

P is ***quantity*** iff P is not homogenous.

Borer (2005) claims that in order to be quantity it is enough for a predicate to be non-divisive. So, when exactly is the predicate P non-divisive? According to Borer's definition, P is non-divisive iff it contains at least one subpart *y* which, when subtracted from *x*, gives rise to a proper part of *x*, which does not have the property P.

Keeping this non-divisiveness requirement in mind, let us begin our investigation of Russian prefixed perfective verbs with completive verbs:

(57) The temporal schema of ***pro**čital knigu* "read-PERF a/the book"



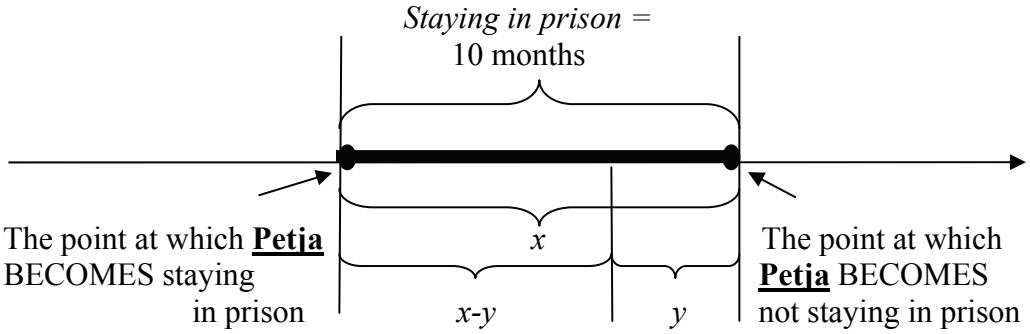
From the schema in (57), we can see that the completive verb ***pro**čital* is quantity, since if we subtract the subpart *y* from *x*, we obtain the subpart of *x*, i.e., *x-y*, which does not have the same property as the predicate ***pro**čitat'*, for it lacks the end-point. This is why the subpart *x-y* cannot be described using the predicate ***pro**čitat'*. It is only compatible with the imperfective counterpart of the verb ***pro**čital*, i.e., *čital* "read-IMP = was-reading" which describes internal parts of the *reading* event, excluding the culmination point.

Let us see next how Borer's definition classifies Russian inceptive verbs. Given that these verbs simply encode a change-of-state, which is arguably a point in time, we can subtract no temporal subintervals from the event but this point itself. Obviously, this

operation produces an event that is different from the original event, namely an empty event. We, hence, have established that Russian inceptive verbs are quantity by definition.

Turning now to Russian delimitative verbs, recall that these verbs contain an overt or covert adverbial in their structure, depending on whether we are dealing with the preverb *pro-* or *po-* respectively. Let us first look at delimitative verbs with the prefix *pro-* which selects for an overt durative adverbial:

(58) The temporal schema of *Petja **pro**sidel v tjurme* **(10 mesjacev*) "Petja stayed in prison for 10 months":



In (58) the subevent *x-y* lacks the final boundary. Because this subevent only contains an initial boundary, it cannot be described by the predicate ***pro**sidet'*, as this predicate requires a culmination-point to define the period of 10 months during which Petja stayed in prison.[156] Hence, the delimitative verbs with *pro-* are quantities.

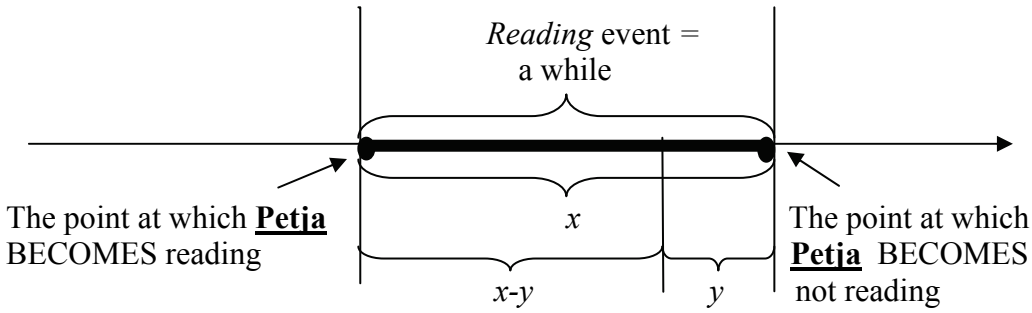
Note that in the case of delimitative verbs with *pro-*, we cannot shift the original end-point to be included in the subpart *x-y*. Such a shift would make the duration of the resulting event, i.e., of the *x-y* subpart, different from the duration of the original event. For instance, assume that the subevent *y* lasts 2 months. If so, then the subevent *x-y* would last only 8 and not 10 months, deviating from the original event.

(59) Petja **pro**sidel v tjur'me 8 mesjacev ≠ Petja **pro**sidel v tjur'me 10 mesjacev.
'Petja stayed in prison for 8 months.' ≠ 'Petja stayed in prison for 10 months.'

[156] Removing a final-point creates an inceptive event. Of course, this event is incompatible with a durative adverbial.

It is somewhat trickier to determine the status of the delimitative verbs with *po-*, given that the adverbial *a while* does not have definite boundaries.

(60) The temporal schema of *Petja **po**čital* (*knigu*) "Petja read (a/the book) for a while":



The subtraction of *a while* from *a while* results in *a while*. Nonetheless, as can be seen from the diagram above, the temporal interval *x-y* is not equal to the temporal interval *x*. Technically, the event that lasts for an interval *x* is not equal to the event that only lasts for an interval *x-y* (assuming *y* is non-null). Hence, the delimitative predicate ***po**čital* is also quantity.

To sum up, according to Borer's definition of quantity (derived on independent grounds), Russian completive, inceptive and delimitative verbs are telic.

To conclude, in this subsection, we have examined Russian prefixed perfective verbs from three different perspectives. First, we have seen that the temporal schemas of these verbs suggest that they are telic. Then, we have subjected these verbs to the standard telicity diagnostics to determine whether they are indeed telic. Finally, we have shown that this finding is supported by Borer's (2005) definition of telicity.

The important conclusion from the semantic analysis of Russian preverbs is that all of them, being telicity markers, should be associated with a projection where telicity is computed, namely, with the *v*P-internal Asp_QP. Although this conclusion does not coincide with the claim advocated by Svenonius (2004), Romanova (2007), Babyonyshev and Kavitskaya (2006) and Borik (2002), it is consistent with our findings in the previous

subsection, namely that the vast majority of Russian preverbs form a single morpho-syntactic class.[157]

4.3.1.2. A note on perfectivity

In this section we will investigate what exactly the term perfectivity stands for. As the outcome of our investigation, we will see that perfectivity and telicity are two notions that pick out the same set of verbal predicates in Russian. Specifically, verbs that contain the quantity phrase Asp_QP are not only telic but also perfective. While there are researchers that agree that perfectivity correlates with telicity (Schoorlemmer 1995, Paslawska & von Stechow 2003, Slabakova 2001 among others), there are also those who oppose this view (Borik 2002, Stoll 2003, Pereltsvaig 2005, Filip 2005, among others).

If the terms *perfective* and *telic* refer to the same set of verbal predicates then we should expect all of Russian perfective predicates to be telic and vice versa. As established in the previous section, Russian prefixed perfective verbs, including inceptives and delimitatives, are telic. The question is whether Russian perfective verbs that are not derived by the process of prefixation also telic.

The second largest group of perfective verbs are semelfactive verbs - verbs derived via the suffixation by the suffix *-nu*, e.g., *prygnut'* "to jump once", *čixnut'* "to sneeze once", *xlopnut'* "to clap once", *stuknut'* "to knock once". These verbs encode achievement-like instantaneous transitions, just like their English counterparts modified by *once*. Because of their telic nature, semelfactive verbs are unacceptable in constructions that entail continuation of the same event:

[157] Recall that in the previous subsection we have established that the distributive prefix *po-* attaches outside verb's basic event structure, i.e., 'above' the *v*P. Interestingly, the data in (vi) suggest that they are, similarly to other Russian preverbs, telicity markers and, as such, should be analysed as occupying an Asp_QP.

(vi) Petja **po-vy**-brasy-**va**-l vse gazety za 10 minut/*10 minut.
Petja threw away one by one-PERF all newspapers in 10 minutes/*for 10 minutes.
'Petja threw away all newspapers one by one in 10 minutes/*for 10 minutes.'

This projection, however, must merge outside of the outer aspect projection occupied by *-va*, given that the distributive *po-* usually attaches to stems that already contain *-va*. The more thorough analysis of verbs with distributive *po-* is beyond the scope of this research.

(61) a. #Petja prugnul i vsjo ečo prodolžaet prygat'. ***telic***
'Petja jumped-once and continues jumping.'

b. #Maša čixnula i vsjo ečo prodolžaet čixat'. ***telic***
'Masha sneezed-once and continues sneezing.'

Recall that Russian also has perfective verbs that do not carry any aspectual morphemes, e.g., *dat'* "to give-PERF", *kupit'* "to buy-PERF", *det'* "to put-PERF", *past'* "to fall-PERF, *sest'* "to sit down-PERF", *stat'* "to stand up/become-PERF", as well as verbs that are linked to their imperfective counterparts by irregular formations such as ablaut, stress shift and suppletion, e.g., *umer**e**t'*-PERF "to die", *reš**i**t'*-PERF "to solve", *ur**é**zat'*-PERF "to cut down", *vzjat'*-PERF "to take", *najti*-PERF "to find", etc. Importantly, these verbs are also telic, as revealed by the Adverbial Modification diagnostic:

(62) a. Lexical perfectives:

Petja kupil pianino za 15 minut/*15 minut. ***telic***
Petja bought-PERF piano in 15 minutes/*for 15 minutes.
'Petja bought the piano in 15 minutes/*for 15 minutes.'

b. PERFs related to IMPs by ablaut:

Kolja rešil zadaču za 10 minut/*10 minut. ***telic***
Kolja solve-PERF problem in 10 minutes/*for 10 minutes.
'Kolja solve the problem in 10 minutes/*for 10 minutes.'

c. PERFs related to IMPs by stress shift:

Za poslednij mesjac/*poslednij mesjac Maše ur**é**zal ***telic***
In past month/ for past month Masha-DAT cut down-PERF
zarplatu na 30%.
salary by 30%.
'In the past month, Masha's salary got cut by 30%.'

d. PERFs related to IMPs by suppletion:

Vera našla ključi ?za 5 minut/*5 minut.[158] ***telic***
Vera found-PERF keys in 5 minutes/*for 5 minutes.
'Vera found the keys in 5 minutes/*for 5 minutes.'

[158] Because the verb *najti* "to find-PERF" is near-instantaneous, it sounds a bit odd with the frame adverbial *za 5 minut* "in 5 minutes", provided that this adverbial presupposes some duration. *Najti*, however, is totally unacceptable with the durative adverbial *5 minut* "for 5 minutes". This contrast suggests that *najti* is not only perfective, but also telic.

The data in (61) and (62), together with our conclusion that Russian prefixed verbs are telic, demonstrates that in Russian all perfective verbs are telic. Forsyth (1970), in his attempt to define perfectivity, notes that perfectivity has to do with a change-of-state: "…the action described by a perfective verb brings about a change in the state of affairs prevailing before the occurrence of the action." The definition of perfectivity that he proposes can also be interpreted as using, although not explicitly, the concept of the change-of-state. For him "a perfective verb expresses the action as a total event summed up with reference to a single juncture (Forsyth 1970, p. 8)." In my opinion, this "juncture" is nothing more than a point in time at which a change-of-state occurs. This is the very same change-of-state that renders the entire structure telic.

So far I have argued that, in Russian, perfective verbs are always telic. This means that they always express a change-of-state, syntactically encoded by an Asp_QP. How about the reverse? Is it also true that all telic verbs are perfective? In other words, is it true that events that contain a transition subevent (encoded by an Asp_QP) in their structure are always expressed by perfective verbs in Russian?

The apparent counterexamples that have been much discussed in the literature have to do with so-called 'telic' readings of imperfective verbs - that is to say with the use of imperfective forms in the situations that are perceived as completed at the time of speech (ST):

(63) Adapted from Forsyth (1970), Schoorlemmer (1995) and Borik (2002)

a. Ja ne pojdu v kafe. Ja (uže) poela/**ela**.
   I not will-go to cafeteria. I (already) ate-PERF/ate-IMP.
   'I won't go to the cafeteria. I have (already) eaten/ I have been eating (already).'

b. Gde vy kupili/pokupali eti apel'siny.
   Where you bought-PERF/**bought**-IMP these oranges.
   'Where did you buy/have you been buying these oranges?'

c. Kto napisal/**pisal** "Vojnu i Mir"?
   Who wrote-PERF/wrote-IMP "War and Peace"?
   'Who wrote/has been writing "War and Peace"?'

d. Kto otkryl/**otkryval** okno?
   Who opened-PERF/opened-IMP window?
   'Who opened/has been opening the window?'

All the sentences in (63) are normally used in the situations that are delimited in the real world at the ST. The question that we need to examine in respect to these data is whether the events encoded by these sentences indeed contain an Asp_QP in their morpho-syntactic structure. Or to put it differently, we need to determine whether it is the syntactic structure of these events that is responsible for their delimited 'telic-like' interpretation. Given that IMP does not encode any change-of-state – the view that I advocate in this thesis, we need to explain where the final boundaries of events encoded by the sentences in (63) come from.

There are researchers who assume that it is imperfective that supplies the events in (63) with the actual/real world final boundary (Borik 2002, Paslawska & von Stechow 2003, Filip 1999). In fact, this seems to be a standard assumption nowadays. Note that this assumption leads to the conclusion that not all telic predicates are perfectives (Borik 2002). There are, however, two major problems with this assumption. First, it mistakenly equates telicity with delimitedness. But while it is true that telicity entails delimitedness, not all delimited events are telic (to see why consult Chapter 3). For example, in English atelic events can be delimited by durative adverbials, without becoming telic. So we can have delimited atelic events. This suggests that delimitedness is not equivalent to telicity. Second, as we have established in the section dedicated to English outer aspect, this aspect is insensitive to the actual boundaries of events. The speaker may choose to linguistically encode only internal parts of a delimited (in the real world) event, using unbounded structure. As we will see later, Russian imperfectives are also species of outer aspect. This is why they can encode the internal structure of delimited events, excluding the transition subevent, just like English unbounded events do. Nonetheless, the question remains why Russian speakers interpret the sentences in (63) as associated with delimited situations. We shall return to this question in section 5.2.2, where we will see that this delimited/completed interpretation results from telic presupposition as well as conversational implicatures and does not signal the presence of an Asp_QP in the syntactic structure of these verbs. In other words, we will see that it is pragmatics rather then syntax that supplies the unbounded events in (63) with an actual end-point. If so,

then these events are not telic, in the structural sense of this term, which we adopted in this dissertation.

This finding implies that in Russian not only are all perfective verbs telic, but also all telic events are perfective. This, in turn, suggests that *perfectivity* and *telicity* are equivalent notions in Russian, at least to the extent that they both single out the same set of verbal predicates, namely, predicates that contains an inner aspect projection in their syntactic structure.[159] The question that we will consider next is what material can license this projection in Russian.

4.3.1.3. Calculating telicity in Russian

Following Borer (2005), I assume that telicity is calculated in the Asp_QP cross-linguistically. Recall that this projection merges above the VP and below the little *v*P, if the latter is present. When well-formed, it gives rise to a telic reading of verbal predicates. In particular, for a telic interpretation to be licensed, the following universal conditions must be met: (i) the Asp_QP must be merged, (ii) the verbal predicate in Asp_Q^o must acquire the [quantity] value or, using Borer's terminology, it must be assigned range and (iii) in the case of motion verbs the path-goal PP must be merged.[160]

As we have seen in section 2.3, in English the merger of Asp_QP can be triggered by a verb's lexical information, a verbal particle or prefix, a quantity DP or, in the case of motion verbs, a path-goal PP. How about Russian? Do only preverbs function as telicity markers? The answer to this question is no. Just like in English, the merger of Asp_QP in Russian can be triggered by a verb's lexical information, a verbal prefix, a quantity DP (to the extent that we can have one in this article-free language), or, in the case of motion verbs, a path-goal PP. We will explore each of these options shortly. For now notice that it looks as if the same elements that can 'trigger' Asp_QP in English can do so in Russian.

While it might be true that the array of elements that can trigger the merger of Asp_QP is universal, the range assigning mechanism is, nonetheless, language-specific.

[159] Note that for an event to remain telic (at the end of the derivation), it must lack an outer aspect projection. Otherwise, we will obtain an unbounded (single or multiple) rather than a telic event. The same is true in the case of perfective predicates. When merging with an outer aspect projection, they lose their perfectivity. We will see why this is so in section 5.1.2.1.

[160] Borer (2005) does not have this 3rd condition. As we will see in this section, the necessity of this condition is inevitable when it comes to Russian motion verbs. Recall that, contra Borer (2005), we have come to the same conclusion, when we looked at telic motion verbs in English.

As argued by Borer (2005), languages vary in whether they assign range to Asp_Q^o directly or through spec-head agreement. As we have already seen, in English, the open value of Asp_Q^o acquires its range from a quantity DP in [Spec, Asp_QP] via spec-head agreement. According to Borer (2005), in Russian, and other Slavic languages, the open value of Asp_Q^o acquires its range directly, from a telicity marking aspectual morpheme.

To verify the accuracy of Borer's claim, let us investigate each of the triggers that I have listed above and see how exactly Asp_Q^o acquires its [quantity] value in each of the examined cases.

(i) ***Lexical BECOME as telicity trigger***

As has been mentioned before, a small number of Russian verbs are prespecified as perfective/telic in the lexicon, e.g., *brosit'* "to throw-PERF", *brat'* "to take-PERF", *dat'* "to give-PERF", *kupit'* "to buy-PERF", *rešit'* "to solve-PERF", etc.[161] That is to say that these verbs 'acquire' their telicity non-compositionally. Just like English achievements, these Russian verbs contain the feature [quantity] or, alternatively, the predicate BECOME in their lexical entries. This feature/predicate triggers the projection of Asp_QP, and since the head of this projection is fully specified as [quantity] (or contains BECOME), the range assignment is not necessary, as there is no open value to be assigned range to.

Interestingly, Russian lexical perfectives can combine with lexical prefixes, producing various idiosyncratic meanings, e.g., *da-* "give" → *dat'*-PERF "to give", ***ot****dat'*-PERF "to give back", ***pere****dat'*-PERF "to pass across", ***iz****dat'*-PERF "to publish"; *bra-* "take" → *brat'*-PERF "to take", ***za****brat'*-PERF "to take back", ***pere****brat'*-PERF "to search through", ***vy****brat'*-PERF "to choose, select", ***iz****brat'*-PERF "to elect". The possibility of such prefixation can be explained by the fact that these verbs have a phonologically empty Asp_Q^o.

It should come as no surprise that lexically empty prefixes are disallowed in this position. The sole role of these prefixes is to supply the Asp_Q^o with the [quantity] feature.

[161] Given the time and space limitations that preclude me from analyzing Russian perfectives that are related to their imperfective counterparts by ablaut and stress shift, I simply assume that the perfective counterparts of these verbs are also lexical/telic. I, thus, similarly to Isačenko (1960), put them together with verbs that are always perfective. Note, however, that in reality these verbs are most likely derivative. Without extensive research, it is unclear to me, which of the two forms, IMP or PERF, if any, is underlying.

But lexical perfectives are already specified for this feature. Lexical prefixes, on the other hand, not only supply the Asp_Q^o with the [quantity] feature, but also produce idiosyncratic meanings. Due to this extra function, they are permitted to occupy Asp_Q^o, even if the latter is already specified as [quantity].

Importantly, the structure of Russian lexical perfectives does not violate the conditions that are at the core of a telic interpretation in that (1) it contains the Asp_QP and (2) the Asp_Q^o is fully specified as [quantity].

(ii) ***Preverbs and the semelfactive suffix -nu as telicity triggers***

Apart from a few lexical perfective/telic verbs, the majority of Russian perfective verbs acquire their telicity compositionally. As we have established so far, in Russian, as well as in other Slavic languages, the process of prefixation is often responsible for a telic interpretation of perfective verbs:

(64) a. Petja čital statju *za ½ časa/½ časa. ***atelic***
Petja read-PI article in ½ an hour/for ½ an hour.
'Petja was reading an/the article *in ½ an hour/for ½ an hour.'

b. Petja **pro**-čital statju za ½ časa//*½ časa. ***telic***
Petja read-PERF article in ½ an hour/for ½ an hour.
'Petja read an/the article in ½ an hour/*for ½ an hour.'

c. Petja **pere**-čital statju za ½ časa//*½ časa. ***telic***
Petja reread-PERF article in ½ an hour/for ½ an hour.
'Petja reread an/the article in ½ an hour/*for ½ an hour.'

This implies that preverbs are aspectual morphemes that ensure the well-formedness of Asp_QP. It must be, then, that Russian preverbs can both (1) trigger projection of Asp_QP and (2) assign range to the open value of Asp_Q^o. While their former function is similar to that of English verbal particles, their latter function is unique. This means that Russian, along with other Slavic languages, uses a range-assigning mechanism different from English. In Russian, the Asp_Q^o acquires its [quantity] feature directly from a verbal morpheme that carries this feature. Preverbs are the most common type of such quantity morphemes.

Another morpheme that seems to carry the feature [quantity] in Russian is the semelfactive suffix *-nu.* Thus, Russian semelfactive verbs inflected with *-nu* are always perfective, e.g., *pryg**nu**t'* "to jump once-PERF", *stuk**nu**t'* "to knock once-PERF".[162]

A derivation in which Asp_Q^o cannot obtain the [quantity] feature (either from the lexicon or compositionally from a preverb or the suffix *-nu*) does not converge, except for cases of coercion. This implies that, apart from lexically telic verbs, other Russian verbs cannot receive a telic interpretation, unless they contain a preverb, the semelfactive suffix *-nu* or are coerced into being telic post-syntactically.

In sum, in Russian preverbs and the semelfactive suffix *-nu* play a crucial role in syntactic licensing of Asp_QP – the projection that gives rise to a telic interpretation.

(iii) ***The internal argument as telicity trigger***

Even though Russian has no articles, there is a way to overtly mark Russian DPs as quantities. One way of doing so is to use cardinals, e.g., *one cup*, *three books*. The other way is to use quantificational phrases, e.g., *some water*, *many books*, *all students*, etc. Demonstrative and possessive pronouns also produce quantity DPs, given that such DPs are referential and, hence, bounded in space: *this house, that cat, her house, his cat*. Moreover, singular count nouns, being non-cumulative and non-divisive are quantities by definition.

Overtly marked DPs as well as singular count DPs, being quantity, could, in principle, trigger the projection of Asp_QP in Russian, just as they do in English, especially when they are interpreted as the Undergoer argument.

Importantly, even the head of an Asp_QP that contains a quantity DP in its specifier position is assigned range directly and not through spec-head agreement. Thus, while in Russian the merger of an Asp_QP may be triggered by a quantity DP, the only way for the head of this projection to acquire the [quantity] feature compositionally is directly from a preverb that merges into this position. The unavailability of a preverb leads to the unavailability of a telic interpretation, suggesting that an Asp_QP which lacks the [quantity] feature is not well-formed:

[162] The exact structure of Russian semelfactive verbs is subject for further research. For now I simply assume that *-nu* occupies the Asp_Q^o.

As can be seen in (65)-(67), only verbs that contain a preverb are classified by the Adverbial modification diagnostic as telic. The prefixless verbs in (65a), (66a) and (67a) being atelic, lack an Asp_QP. Hence, although a quantity DP can technically trigger the projection of an Asp_QP in Russian, it cannot properly license this projection. Unlike preverbs, a quantity DP fails to assign range to Russian Asp_Q^o. As a result of this failure, verbs that appear with a quantity DP but without a preverb acquire an atelic reading. i.e., assume a structure that lacks an Asp_QP.

(65) a. Petja *pil* 3 kružki piva *za ½ časa/½ časa.[163] ***atelic***
Petja drank-PI 3 glasses of beer *in ½ an hour/½ an hour.
'Petja was drinking 3 glasses of beer *in ½ an hour/for ½ an hour.'

b. Petja ***vy****pil* 3 kružki piva za ½ časa/*½ časa . ***telic***
Petja drank-PERF 3 glasses of beer in ½ an hour/*½ an hour.
'Petja drank 3 glasses of beer in ½ an hour/*for ½ an hour.'

(66) a. Maša *čitala* eti statji *za 3 časa /3 časa. ***atelic***
Masha read-PI these articles *in 3 hours/3 hours.
'Masha was reading these articles *in 3 hours/for 3 hours.'

b. Maša ***pere****čitala* eti statji za 3 časa /*3 časa. ***telic***
Masha read-one-by-one-PERF these articles in 3 hours/* 3 hours.
'Masha read these articles in 3 hours/*for 3 hours.'

(67) a. Nina *risovala* portret *za 5 dnej /5 dnej. ***atelic***
Nina painted-PI portrait *in 5 days/5 days.
'Nina was painting a/the portrait *in 5 days/for 5 days.'

b. Maša ***na****risovala* portret za 5 dnej/*5 dnej. ***telic***
Masha painted-PERF portrait in 5 days/*5 days.
'Masha painted a/the portrait in 5 days/*for 5 days.'[164]

Before we proceed any further, we must contest Filip's (2005) claim that contradicts the conclusion above. According to Filip, imperfective events occurring with

[163] Since PI blocks quantity reading of DPs, the cardinal DP in this example has a simultaneous rather than a sequential reading. Note that because quantificational DPs cannot receive a partial reading without losing their meaning, they are incompatible with PI. This is why I do not have these types of DPs in the examples above. Crucially, quantificational DPs can appear with perfective verbs in Russian, e.g., *Petja sjel neskol'ko jablok/vse jabloki* "Petja ate-PERF some/all apples", contra to Borer's (2005) analysis which inaccurately predicts ungrammaticality of such a combination.

[164] Note that unlike their English counterparts, the sentences in (66b) and (67b), being telic are absolutely incompatible with durative adverbials.

cardinal DPs are underlyingly telic. If true, this observation would suggest that preverb-free primary imperfectives can acquire their [quantity] feature from a cardinal DP, essentially employing English-like indirect range assignment instead of Russian-like direct range assignment. This is exactly Filip's view. In what follows, I will argue that Filip's claim is not supported by Russian data.

To see why, consider the data below:

(68) a. Každyj den' Petja ***vypiva****et* 3 kružki piva/butylku vodki.
Every day Petja drinks-SI 3 glasses of beer/ bottle of vodka.
'Every day Petja drinks 3 glasses of beer/a bottle of vodka.'

b. Každyj den' Petja *pjot* ???3 kružki piva/*butylku vodki.
Every day Petja drinks-PI 3 glasses of beer/bottle of vodka.
'Every day Petja is drinking 3 glasses of beer/a bottle of vodka.'

c. Každyj den' Maša *piset* ??2 statji.
Every day Masha writes-PI 2 articles.
'Every day Masha is writing 2 articles.'

According to Filip, in Slavic, both primary and secondary imperfectives occurring with a cardinal DP can receive a telic-like iterative interpretation (i.e., an interpretation whereby the entire DP undergoes a change-of-state repeatedly indefinite amount of times).

I respectfully disagree with Filip's grammaticality judgments. According to my informants, while the sentence in (68a) with the SI is perfectly fine, the sentence in (68b) with the primary imperfective sounds odd. As far as my judgment goes, the only way to make *pjot* "drinks-PI" compatible with the DP *3 kružki piva* "three glasses of beer" is to interpret the DP as having a simultaneous reading, which is not a quantity reading of cardinal DPs. Because the DP *butylku vodki* cannot have a non-quantity reading, without losing its basic meaning, it is incompatible with *pjot* "drinks-PI". This shows that cardinal DPs appearing with the primary imperfective are not really quantity and, hence, cannot license an Asp_QP. In other words, the sentences in (68b) and (68c) have an atelic-like habitual reading (i.e., a reading whereby a non-bounded process is repeated indefinitely). Only the sentence in (68a) has a telic-like iterative reading. This should come as no

surprise, given that while in (68a) the preverb *vy-* assigns range an Asp_QP, both sentences (68b) and (68c) lack such a range assigner.

Paying justice to Filip's observation, note that, when it comes to judgments of (68b) and (68c), speakers' responses vary greatly. Moreover, some of my informants who rejected (68b) (with *3 kružki piva*), found (68c) less odd, despite the fact that both of these sentences are structurally equivalent. Hence, apart from inter-speaker variation, the judgments seem to depend on the verb used. Why is this so? Perhaps, because unlike *pit'* "to drink" the verb *pisat'* "to write" lacks a SI form that is required in this structure.

Interestingly, the speakers who judged (68b) and (68c) as marginally acceptable said that they would never produce such sentences. This might suggest that they simply accepted these sentences as a result of an online restructuring. It might be that, while processing these sentences, they parsed them as having the legitimate structure that contains the distributive particles *po*:

(69) a. Každyj den' Petja *pjot* **po** 3 kružki piva/butylke vodki.
Every day Petja drinks-PI DISTR 3 glasses of beer/bottle of vodka.
'Every day Petja drinks 3 glasses of beer/ a bottle of vodka.'

b. Každyj den' Maša *piset* **po** 2 statji.
Every day Masha writes-PI DISTR 2 articles.
'Every day Masha writes 2 articles.'

The inter-speaker variation simply reflects the fact that some speakers are more ready to accept such online restructuring than others, allowing for *po* to be covert. The willingness of speakers to drop *po* also depends on the verb's semantics as well as whether or not the verb has a secondary imperfective form. Thus, some of my informants who rejected the sentences in (68b) and (68c), accepted (70) as grammatical, even when *po* was omitted:

(70) On risuet (po) 3 kartiny v mesjac.
He paints-IMP DISTR 3 paintings in month.
'He paints 3 paintings a month.'

Crucially, in production, all speakers showed a strong preference for *po* to be overt, suggesting that it is *po* and not the cardinal DP that assigns range to the Asp_Q^o, producing

a well-formed telic *v*P. I assume that this particle which looks suspiciously like the distributive preverb *po*- assigns range directly by merging into Asp_Q^o.[165]

To recap, unlike Filip (2005), I do not believe that cardinality DPs can make Russian verbal predicates telic. Such a structure can only be licensed by a preverb or the distributive particle *po* that merges directly into the Asp_Q^o, with the possibility of *po* to be covert.

To conclude, although a quantity DP may trigger the merger of an Asp_QP in Russian, its presence is not sufficient to license a well-formed Asp_QP. The merger of a morpheme that can directly assign the [quantity] value to the Asp_Q^o, either a preverb or the particle *po*, is essential. This suggests that, Russian always employs the direct rather than the indirect range assigning mechanism.

(iv) ***Resultative construction as telicity trigger***

Just like in English, in Russian the complement clause in the resultative construction may be able to trigger the merger of Asp_QP. It cannot, however, assign range to Asp_Q^o.

Given that Russian preverbs are necessary components of a telic structure (apart from the exceptions listed above) we expect verbs that lack such preverbs to be atelic, even when they appear as part of the resultative construction (to the extent that such 'bare' forms are admitted in this construction).[166] This prediction is supported by the Russian data in (71):

(71) a. Petja ??pisal upražnenie nabelo *za 10 minut. ***atelic***
Petja wrote-PI exercise fair *in 10 minutes.
'Petja was making a fair copy of the exercise *in 10 minutes.'

[165] Of course we need to explain why the particle *po*, although merging into Asp_Q^o, does not attach to the root, just as preverbs do. Given time and space limitations, I will leave this problem to further research.

[166] Some of my informants judged (71a) and (71b) as ungrammatical. Indeed, in the vast majority, PIs are incompatible with the resultative construction as shown in (vii) below.

(vii) a. Masha *terla/**vy**terla stol nasuxo.
Masha polish-PI/wiped-PERF the table dry.
'Masha was polishing/wiped the table dry.'

b. Petja *vel/**do**vel svoju ženu do isteriki.
Petja drove-PI/drove-PERF his wife to histeria.
'Petja was driving/drove his wife to be hysterical.'

But even when they are marginally acceptable as in (71a) and (71b), they do not license a telic interpretation.

b. Maša ??myla pol načisto *za 10 minut. ***atelic***
Masha wash-PI floor clean *in 10 minutes.
'Masha was washing the floor clean *in 10 minutes.'

Adding a preverb to the verbs in (71) yields a telic interpretation of resultatives, supporting the claim that preverbs are crucial for a well-formedness of Asp_QP:

(72) a. Petja **pere-**pisal upražnenie nabelo za 10 minut. ***telic***
Petja rewrote-PERF exercise clean in 10 minutes.
'Petja made a clean copy of the exercise in 10 minutes.'

b. Maša **vy**-myla pol načisto za 10 minut. ***telic***
Masha wash-PERF floor clean in 10 minutes.
'Masha washed the floor clean in 10 minutes.'

To sum up, the Russian resultative construction obeys rules of aspectual composition in that it acquires a telic interpretation only in the presence of a preverb – an aspectual morpheme that supplies Russian Asp_Q^o with the [quantity] feature.

(v) ***Directional-locative PPs as telicity triggers***

Russian motion verbs can be delimited by a preverb in combination with a directional-locative PP that specifies the path and goal of the motion:

(73) a. Petja **u**bežal/*bežal iz doma.
Petja **u**-ran-PERF/ran-PI from home.
'Petja ran away/was running from home.'

b. Kolja **ot**plyl/*plyl ot berega.
Kolja **ot**-swam-PERF/swim-PI from shore.
'Kolja swam away/was swimming from the shore.'

c. Avtobus **pod**exal/exal k ostanovke.
Bus **pod**-drove-PERF/drove-PI to bus stop.
'The bus drove up to the bus stop/was driving towards the bus stop.'

With motion verbs preverbs often have directional meaning, similar to directional prepositions.[167] Thus, in (73a) *u-* has the meaning "from" just like *ot-* in (73b).

[167] With directional motion verbs the prefix *po-* can receive an inceptive meaning in Russian:
(viii) Utka **po**letela/**po**bežala/**po**plyla.
'The duck started to fly/run/swim.'

Non-incidentally the head of the *path-goal* PP in (73a) and (73b) has the same meaning as the preverb. In (73b), it also has the same phonological form.

In (73c) the preposition *k* is interpreted as the *path-goal* "to" only when co-occurring with the perfective form. With a preverb free imperfective form, it simply receives the non-delimited *path* interpretation "towards".

Because preverbs of motion verbs carry directional meaning repeated by the preposition in the path-goal argument, the PP can be covert, as long as the complement of P is recoverable:

(74) a. Petja **pri**šjol/**pri**letel/**pri**plyl/**pri**exal. - (to here)
Petja **pri**-walked-PERF/**pri**-flew-PERF/**pri**-swam-PERF/**pri**-drove-PERF.
'Petja arrived by walking/flying/swimming/driving.'

b. Kolja **u**šjol/**u**letel/**u**plyl/**u**exal. - (from here)
Petja **u**-walked-PERF/**u**-flew-PERF/**u**-swam-PERF/**u**-drove-PERF.
'Petja left by walking/flying/swimming/driving.'

In (74) the path portion of PP is encoded by the preverb. Thus, ***pri-*** encodes movement towards some location and ***u-*** movement from some location. When the PP is omitted, the location towards and from which the movement is directed is taken to be the reference point known to interlocutors, usually *here* in its broad sense. Finally, because this location functions as a goal the meaning of ***pri-*** is interpreted as delimited, i.e., "to" rather than "towards".

Hence, to produce a telic motion verb in Russian two things must be present (1) a directional preverb and (2) the path-goal argument, whether overt or covert.

How about transitive motion-like verbs? Must their perfective/telic version, specifying a change-of-location rather than change-of-state of the Undergoer argument, contain both a directional preverb and a path-goal PP? The answer is yes. Consider the data below:

With non-directional motion verbs, it has a delimitative reading:
(ix) Utka **po**letala/**po**begala/**po**plavala.
'The duck flew/ran/swam for a while.'
Readers are referred to Kozlowska-Macgregor (2002) for the discussion of Polish motion verbs with *po-*.

(75) a. 5 minut/*za 5 minut Maša pisala stixi ??v bloknot.[168] ***atelic***
'For 5 minutes/*in 5 minutes, Masha was-writing verses (in the notebook).'

b. 5 minut/*za 5 minut Petja tasčil sunduk ??iz doma. ***atelic***
'For 5 minutes/*in 5 minutes, Petja was-dragging a/the trunk from the house.'

c. Maša **za-**pisala stixi *(v bloknot) za 5 minut/*5 minut. ***telic***
'Masha wrote verses into the notebook in 5 minutes/*for 5 minutes.'

d. Petja **vy-**tasčil sunduk *(iz doma) za 5 minut/*5 minut. ***telic***
'Petja dragged a/the trunk from the house in 5 minutes/*for 5 minutes.'

In (75) prefixless verbs yield an atelic interpretation even when they appear with a path-goal PP. Hence, even in the case of Russian transitive motion verbs, the presence of a preverb is a necessary condition for a telic interpretation to arise. The question is whether it is also a sufficient condition.

While in English, omission of the PP in these *push*-type verbs results in an atelic reading, in Russian it causes the derivation to crash, unless the path-goal PP is recoverable from the context. In a way the presence of a directional preverb presumes the existence of a PP headed by the preposition with the same meaning as the preverb. When that information is not provided in the sentence or, alternatively, non-deducible from the context, the resulting sentence is incomplete and, hence, ungrammatical. The literal English translation of (76a) and (76b) shows why this is so:

(76) a. *Maša **pro-**tolknula koljasku.
'Lit: Masha pushed-in the stroller into ?.'

b. *Petja **vy-**tasčil sunduk.
'Lit: Petja dragged-out a/the trunk from ?.'

The data in (76) show that a telic version of the *push*-type of verbs is obligatorily ditransitive in Russian. In other words, in the case of Russian transitive motion verbs, the Asp_QP is not licensed, if a path-goal PP argument is missing. Having a preverb in the structure is, thus, a necessary, but not sufficient condition. This finding echoes our finding in English, where having a quantity Undergoer was a necessary but not sufficient

[168] Some of my informants disallowed a PI to appear together with a PP in (75a and 75b). They showed a strong preference for a SI forms in this context. Given inter-speaker variability, I left the PP there, but marked it as marginally acceptable.

condition to yield a telic interpretation of ditransitive motion verbs, i.e., *push*-type verbs. To produce a telic motion verb, in both English and Russian, a path-goal PP must also be present, given that these verbs encode change-of-location of the Undergoer argument.

Once again, while a directional-locative PP can trigger the merger of Asp_QP, it cannot assign a range to the Asp_Q^o. To obtain a well-formed Asp_QP in Russian, not only must a path-goal PP but also a preverb be merged. This requirement, thus, confirms the claim that, in Russian, Asp_Q^o acquires its [quantity] feature directly from an aspectual morpheme that carries this feature. The failure to comply with it gives rise to an atelic interpretation, demonstrating that the merger of Asp_QP was not licensed.

(vi) ***Adverbs as telicity triggers***

As in English, in Russian various adverbs can trigger coercion of homogenous events into telic ones, by explicitly specifying the event's boundaries. To demonstrate, consider durative adverbials which limit homogenous events to the period of time specified by the adverbial:

(77) Petja čital knigu 15 minut. ***delimited***
'Petja was reading the book for 15 minutes.'

Although the sentence in (77) is perceived as terminated at the time of speech, i.e., delimited, it does not entail completion in the sense that the book that Petja read does not need to be read completely.[169] In fact, given the period of 15 minutes, it is most likely that Petja did not read the entire book. Hence, the sentence in (77) is delimited but not telic.

Perhaps there are other adverbs in Russian that can trigger coercion of atelic predicates into telic. Investigating them would lead me away from the main purpose of this dissertation, especially because, just like for English, I would treat these coercion cases as not affecting the syntactic structure of events. In other words, I assume that time adverbials do not produce a telic syntactic structure, i.e., they do not trigger the merger of an Asp_QP, but simply delimit the event on the time axis. Hence, cases of adverbial

[169] Recall that in English durative adverbials also delimit atelic/unbounded verbal predicates, without rendering them telic (see 3.2.2.1).

modification are not cases of aspectual compositionality in the syntactic sense of this term.

To sum up, in this section we have established that compositional telicity is an outcome of universal syntactic conditions. Specifically, for a telic interpretation to arise the following conditions must be satisfied: (i) the *v*P-internal *Quantity phrase* (Asp_QP) must be merged, (ii) the verbal predicate in Asp_Q^o must acquire the [quantity] value and, in the case of motion verbs, (iii) in the case of motion verbs, the path-goal PP must be merged.

In this section, we have established that in Russian the set of elements that can license merger of Asp_QP is similar to that found in English: quantity DPs, path-goal PPs, or verbal 'bits' such as prefixes or particles. Nonetheless, while in English, dynamic verbs acquire the [quantity] feature indirectly, through spec-head agreement, from a quantity DP in [Spec, Asp_QP], in Russian they do so directly, from an aspectual morpheme that merges onto Asp_Q^o. This is why in Russian only verbs consisting of a quantificational prefix/the suffix *-nu* and the root are interpreted as telic, with the exception verbs that are specified as perfective in the lexicon. This contrasts with English where only *v*Ps that contain a quantity internal argument (a singular count, a definite plural or an overtly quantificational noun) receive a telic interpretation (Verkuyl 1993).

Hence, in English, but not in Russian the presence of a quantity DP is crucial for a telic interpretation to arise. But does this automatically mean that Russian telic verbal predicates do not require a presence of an Undergoer argument? For one thing, their telicity seems to be quite independent of it. Nonetheless, as we will see in the next section, all Russian telic predicates appear with the Undergoer argument, partially obeying Verkuyl's generalization.

4.3.1.4. Verkuyl's generalization in Russian

As has been mentioned before, the majority of Russian perfective verbs are obligatorily transitive. This is certainly true of completive perfective verbs, which are obligatorily transitive, while their imperfective counterparts may be intransitive:

(78) a. Petja čital (knigi).
Petja read-IMP book.
'Petja was reading (the) books.'

b. Petja **pro**čital *(knigi).
Petja read-PERF books.
'Petja read the books.'

c. Petja **pere**čital *(knigi).
Petja *pere*-read-PERF books.
'Petja reread/read one by one the books.'

(79) a. Petja el (sup).
Petja ate-IMP soup.
'Petja was eating (the) soup.'

b. Petja **s'**el *(sup).
Petja ate-PERF soup.
'Petja ate the soup.'

This behaviour of Russian telic verbs is suspiciously similar to the behaviour of English telic verbs which also require their telic predicates to be minimally transitive. In fact, this requirement is reflected in Verkuyl's generalization which postulates two main distinctions between dynamic telic (i.e., accomplishments) and dynamic atelic (i.e., activities) verbs:

(80) Verkuyl's generalization (modified):

(i) dynamic telic verbs obligatorily appear with the Undergoer argument, i.e., an argument that undergoes an identifiable change during the course of the event;[170]

(ii) the internal argument of dynamic telic verbs is quantity (i.e., singular indefinites, definites or quantificational nouns) while the internal argument of dynamic atelic verbs, if present, is non-quantity/homogenous (i.e. mass nouns or bare plurals).

Note that in (78) and (79), the internal argument is also the Undergoer argument, as these verbs quantify over their objects. Do the data in (78) and (79) then suggest that Russian obeys (80i)?

[170] This generalization has been modified to accommodate the analysis of telic predicates advocated in this thesis, according to which it is the presence of the Undergoer argument (i.e., an element in [Spec, Asp_QP] in our analysis) rather than of the internal argument that is crucial for telicity.

As has been pointed out by Borer (2005), in Russian not all perfective verbs must be transitive. In particular, perfective motion verbs (81) as well as inceptive and delimitative verbs (82) can be intransitive:

(81) a. Petja **u**bežal.
Petja *u*-run-PERF.
'Petja run away.'

b. Petja **pri**š'ol.
Petja *pri*-walk-PERF.
'Petja came.'

(82) a. Petja **po**čital (knigu).
Petja *po*-read-PERF book.
'Petja read (a/the book) for a while.'

b. Petja **za**pel (pesnju).
Petja *za*-sing-PERF song.
'Petja started to sing a/the song.'

When it comes to motion verbs, it is their surface subject that undergoes a change-of-location. Hence, these verbs' Undergoer argument is the same as their surface subject. This means that Russian motion verbs do not violate (80i), despite their intransitivity. Russian inceptive and delimitative verbs can be intransitive for the similar reason. Thus, as I have argued in section 2.3.1.1.2-i, these verbs encode a change-of-state that affects their surface subject and not their surface object.[171] This is precisely why they can be intransitive without violating (80i).

Given that a telic event contains a change-of-state, it should come as no surprise that the argument whose change-of-state or change-of-location that the event encodes is obligatory, regardless of the language we are dealing with. (80i), thus, seems to be a universal requirement. In the system advocated in this dissertation (80i) translates into: a quantity verbal predicate requires the presence of an argument whose change-of-state it encodes. Or simply: the Spec of the Asp_QP cannot be empty.

Is (80ii) also a universal requirement? The data in (78b), (78c) and (79b) demonstrate that Russian violates (80ii), as in these sentences perfective/telic verbs

[171] Readers are invited to review the temporal schemas of inceptive and delimitative Russian verbs provided in section 4.3.1.1.2-i to see why this is so.

appear with non-quantity DPs, i.e., bare plurals in (78b) and (78c) or mass nouns in (79b). This suggests that unlike (80i), (80ii) is a language-specific requirement, obeyed by English, but not Russian. In fact, as suggested by Borer (2005), (80ii) is an instantiation of an indirect range assignment. Since in English only a quantity DP in [Spec, Asp_QP] can assign range to Asp_Q^o, this DP must be quantity, otherwise Asp_QP would not be licensed. Russian can violate (80ii), because it uses direct range assignment.

Nonetheless, while it is true that Russian is not sensitive to the aspectual status of the Undergoer argument, it requires this argument to be present. The fact that Russian obeys (80i) suggests that Russian partially obeys Verkuyl's generalization, contra Borer's (2005) claim.

To conclude this section let me mention that when it comes to Russian dynamic telic verbs, not only do they select for the Undergoer argument, but also the aspectual feature of this argument must agree with verb's aspectual feature.[172] In other words, the affected argument of Russian accomplishments is obligatorily interpreted as a quantity DP. Thus, while in Russian bare plurals and mass DPs can receive either a quantity or homogenous interpretation, when occurring with a dynamic IMP (as in (78a) and (79a)), they unambiguously receive a quantity interpretation, when occurring with a dynamic PERF (as in (78b), (78c) and (79b)) (Krifka 1989, 1992, Filip 1992, 1994, 1999).

But what does it mean for an articleless DP to be interpreted as quantity? Informally this means that the DP must be perceived as bounded/delimited in space.[173] Note that singular count nouns, having well-defined space boundaries, are quantities by definition. In contrast, bare plurals and mass nouns, lacking such boundaries, are homogenous. The question then is what does it mean for these Ns to acquire the

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[172] Just like in English, Russian seems to lack an agreement relation between achievements and their Undergoer argument. Thus, contrary to Undergoer of Russian accomplishments, Undergoer of Russian achievements can receive non-quantized **generic** reading, when appearing post-verbally:

(x) K nam v školu **pri**exali amerikancy/parižane.
To our school came-PERF Americans/Parisians.
'Americans/Parisians visited our school.'

As pointed out by Filip (2005) it might be punctuality of achievements that is responsible for the fact that they do not agree with their Undergoer argument. Being near-instantaneous, achievements lacks temporal parts necessary for homomorphic mapping between verbal and nominal predicates

[173] Obviously, this is a very informal view on a quantity interpretation. Nonetheless, it suffices for the purpose of this dissertation, which is not concern with aspectuality of DPs but only with aspectuality of *v*Ps. For more elaborated and formal proposals about a quantity interpretation of DPs, readers are referred to Filip (1999) and Borer (2005).

[quantity] feature? How do we interpret them as opposed to non-quantity mass and plural DPs? While we have but limited space to dwell on this problem, let me demonstrate how this works with an example from Filip (1999):

(83) a. Ivan pil čaj.
Ivan drank-IMP tea.
'Ivan was drinking tea.'

b. Ivan **vy**pil čaj/čaju
Ivan drank-PERF tea-ACC/tea-GEN
'Ivan drank-PERF the tea/some of the tea.'

In (83a) the event encoded by the IMP signals that some drinking of tea occurred, without being specific about the quantity of the tea being consumed.[174] In (83b), on the other hand, the DP *tea* is interpreted as referring to some "specified quantity"[175] of tea known from the discourse. While the DP in ACC signals that this quantity of tea was consumed totally/entirely (i.e., *all* of it), the DP in GEN signals that only *some/a little* of it was consumed.[176] The 'total' interpretation often correlates with definite reading of English DPs. This is why in (83b), *čaj* "tea-ACC" is translated as "the tea" into English. Importantly, all interpretations of *tea* in (83b), namely, that of *the tea*, *all* of the *tea* or *some tea*, are quantities, just like they are in English. Leaving aside the details on the quantity interpretation, let us, nonetheless, briefly look at the mechanism that is responsible for such an interpretation.

In Russian, the Undergoer argument in [Spec, Asp_QP] acquires its [quantity] feature from the verbal element in Asp_Qº via spec-head agreement.[177] Hence, in Russian accomplishments, just like in English accomplishments, there is an agreement relation between the aspectual feature of a verbal predicate occupying Asp_Qº and of a nominal

[174] We will talk more about the interpretation of DPs in scope of the IMP in the chapter dedicated to Russian outer aspect.
[175] Note the striking similarity between the interpretation of *tea* in this example and the Verkuyl's feature [+SQA] (Specified Quantity of things or mass). Recall that in our analysis [+SQA] was replaced by [quantity].
[176] Mass nouns are rge only Ns that can occur in GEN when appearing with verbs of consumption, with the meaning "some of mass". The cumulative prefix *na-* having the meaning "a lot of" always selects for a genitive DP.
[177] Recall that according to Borer (2005) in English an Asp_Qº is assigned range using AGREE, given that English lacks verbal morphology (preverbs) that can directly assign range to the Asp_Qº. It looks like in Russian it is Dº (or some other aspectual equivalent of the Asp_QP in nominals) that is assigned range using AGREE, given that Russian lacks nominal markers (determiners) that can directly assign range to the Dº.

predicate occupying [Spec, Asp_QP]. The crucial difference, between these two languages is that whereas in English AGREE copies the [quantity] feature of the nominal predicate onto the verbal predicate, in Russian the reverse happens, i.e., the verbal predicate copies its [quantity] feature onto the nominal predicate. We will come back to this important difference between English and Russian, when we discuss the aspectual parameter related to the acquisition of inner aspect. For now, let us turn to the phrase structure of Russian perfective verbs.

4.3.1.5. The phrase structure of Russian perfective verbs

Russian has two classes of telic/perfective verbs: achievements and accomplishments. Given the system I have been advocating, this means that both Russian achievements and accomplishments contain an Asp_QP - a maximal projection accountable for a telic/perfective interpretation.

As we have seen in section 4.3.1.3, in Russian, just like in English, an Asp_QP can be triggered by lexical or 'structural' information. I assume that lexical perfectives as well as perfectives related to their imperfective counterparts by the processes of irregular formation such as ablaut, stress shift and suppletion, are prespecified as quantity and, hence, do not compute telicity compositionally. On the other hand, perfectives derived by morphological processes (prefixation or perfectivization by the suffixation with *-nu*) acquire their telicity compositionally, from a prefix or the suffix *-nu* respectively. It is, thus, a preverb or the suffix *-nu* that licenses the syntactic projection of the Asp_QP. Let us consider the details.

4.3.1.5.1. Achievements

Russian achievements, like English achievements, encode non-dynamic near-instantaneous events.

Since achievements lack duration, they cannot be modified by adverbials that presuppose any interval of time during which the event was 'developing'. This is why they sound odd with the frame adverbials of ***za*** *X-time* "in X-time": [178]

[178] Only achievements that allow for a slow-motion reading as in (92) can exceptionally be modified by *za X-time* adverbials.

(84) a. Petja ubil komara ???za 5 minut.
Petja killed-PERF mosquito in 5 minutes.
'Petja killed a/the mosquito in 5 minutes.'

b. Maša zametila izmenenija v tekste *za 10 minut.
Masha noticed-PERF changes in text in 10 minutes.
'Masha noticed the changes in the text in 10 minutes.'

Interestingly, Russian frame adverbials of ***za*** *X-time* "in X-time" type, unlike their English counterparts, cannot modify 'preliminary stages' of an achievement.[179] They unambiguously modify the process subpart of a telic event. For instance, the sentence in (84b) entails that it took Masha 10 minutes to notice the changes in the text. Crucially, (84b) cannot be interpreted as: 10 minutes of Masha's exposure to the text have passed before Masha noticed any changes in it. Because achievements lack any process subpart, they are incompatible with such 'process-oriented' frame adverbials.

Non-dynamicity of achievements is also reflected by the fact that they generally resist the process of secondary imperfectivization, i.e., *-va* suffixation, which turns a telic event into an unbounded one, either with a progressive or iterative interpretation. As far as *-va* is concerned, it should be able to attach to achievements, given that they all have an idiosyncratic meaning.[180] The resistance in combining with *-va* comes from the inability of achievements to progressivize, which is an attribute of non-durational events:[181]

(85) a. Petja voznenavidel/*voznenavide**va**l svoju rabotu.
Petja started-to-hate-PERF/*started-to-hate-SI his job.
'Petja started to hate/*was starting to have his job.'

b. Maša rasserdilas'/*rasserži**va**las' na svoju sestru.
Masha became-angry-PERF/*became angry-SI at her sister.
'Masha became angry/*was becoming angry at her sister.'

[179] To modify preliminary stages of an achievement, Russian uses the adverbial headed by the preposition ***čerez***, e.g., *čerez 10 minut*, which is also translated into English as "in 10 minutes". In other words, while English frame adverbials of *in X-time* are ambiguous, their Russian counterparts are not.

[180] Recall that in Russian *-va* generally attaches to perfective prefixed stems whose meaning is different from the meaning of the root they are derived from. Since all achievements acquire a new meaning as a result of prefixation, they all satisfy this condition.

[181] Similarly to English, some of Russian achievements can be coerced into accomplishments. Such coerced forms are compatible with a progressive reading, e.g., ***u**meret'* "to die-PERF" → ***u**mirat'* "to die-SI". Importantly, the process part of coerced 'accomplishments' is not a subpart of the original achievement event, e.g., of *dying* event, but rather leads to this instantaneous event (Rothstein 2004).

For the same reason, achievements that do allow the SI form are standardly interpreted as iterative:

(86) a. Nevziraja na Mašiny častye metamorfozy, Petja vsegda uzna**va**l ejo.
In spite of Masha's frequent metamorphosis, Petja always recognized-SI her.
'In spite of Masha's frequent metamorphosis, Petja has always recognized her.'

b. Ona uxodit s raboty v 5:00 časov.
She leaves-SI from work at 5:00 o'clock.
'She (regularly) leaves work at 5:00 o'clock.'

The fact that Russian achievements cannot form SIs with a single event reading suggests that they lack dynamicity. To put it differently, they lack the *v*P projection – a projection that encodes a process subevent. Their inability to be modified by ***za*** X-time type adverbials points to the same conclusion.

The question that we will address next is whether an Asp_QP in Russian achievements is licensed by lexical or morpho-syntactic information. As we have seen, most English achievements are lexically prespecified as quantity. Their telicity is, thus, non-compositional. In Russian, the reverse happens: the vast majority of Russian achievements are compositionally telic, although we can certainly find a few lexical achievements in Russian as well, e.g., *najti* "find-PERF" vs. *iskat'* "look for-IMP. This means that the Asp_QP of Russian achievements is generally licensed by an aspectual morpheme associated with this projection: a preverb, the semelfactive suffix *-nu*.[182]

Russian achievements are commonly derived from state-like roots, e.g., *ljubi-* "love" → ***po****ljubit'* "start/come to love", *zna-* "know" → ***u****znat'* "come to know/ recognize", *nenavide-* "hate" → ***voz****nenavidet'* "start to hate". Exceptionally, they can be derived form activity-like roots, e.g., *bi-* "beat" → ***u****bit'* "to kill", ***raz****bit'* "to break".

Because achievements, unlike states, encode a change-of-state, their meaning always differs, partially or entirely, from that of the corresponding states.[183] This distinction in meaning has caused Russian structuralists to treat Russian achievements

[182] Without getting into the details on structure of Russian semelfactive verbs, I simply assume, following Smith (1997) that they are achievements. These verbs exhibit three properties of achievement verbs: (1) they encode near instantaneous events; (2) they do not take the SI suffix *-va* and (3) they are incompatible with ***za***-type frame adverbials.

[183] This is because, unlike an activity, a state can never lead to a potential or using Smith's (1997) term *arbitrary* change-of-state.

and their corresponding states as unrelated, i.e., these verbs are viewed as separate words, with their independent lexical entries, rather than morphologically related forms. The traditional analysis of Russian achievements, however, fails to explain their two important properties: (1) as we have just seen, they contain the same roots as states (activities); (2) they are composed of the same set of preverbs as accomplishments, e.g., ***po****ljubit'* "come to love-ACHIEV" vs. ***po****krasit'* "to paint-ACCOM, ***voz****nenavidet'* "start to hate-ACHIEV" vs. ***voz****ložit'* "put down-ACCOM", ***ras****serdit'sja* "become angry-ACHIEV" vs. ***raz****vjazat'* "to untie-ACCOM". Both of these properties suggest that Russian achievements consist of a prefix + a stative/activity root. Note that such a decompositional approach to Russian achievements is fully compatible with the system developed in this dissertation, where a word's idiosyncratic meaning is no longer viewed as the sign of its non-compositionality.[184]

Just like English achievements, Russian achievements can exceptionally receive a slow-motion reading:

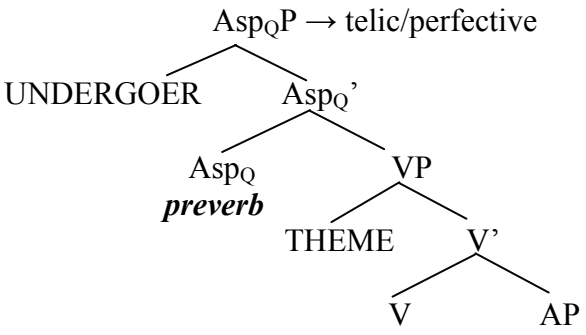
(87) a. Malo pomalu Petja **voz**nenavidel svoju rabotu.
Little by little Petja started-to-hate-PERF self job.
'Little by little, Petja started to hate his job.'

b. Malo pomalu Maša **v**ljubilas' v Petju.
Little by little Masha fell-in-love-PERF with Petja.
'Little by little, Masha fell in love with Petja.'

From what has been said so far it follows that Russian achievements are Asp_QPs, with a preverb occupying the Asp_Q^o. Using structural terms, we can refer to the events that achievements encode as (non-dynamic) telic events, or alternatively as (non-dynamic) perfective events:

[184] Russian achievements, whose meaning drastically departs from that of their stative stems, may have been reanalysed by native speakers as non-decompositional lexical achievements, despite the fact that they contain a recognizable preverb: *by-* "to be" vs. ***za****byt'* "forget", ***pri****byt'* "to arrive". Importantly, the syntactic analysis of telic verbs developed in this dissertation allows for both lexical and derived achievements.

(88) ACHIEVEMENTS or (NON-DYNAMIC) TELIC/PERFECTIVE EVENTS: ***po**ljubit'* "come to love"*,* ***u**znat'* "recognize/come to know", ***ras**serdit'sja* "become angry".



In the case of non-coerced achievements, the Undergoer argument coincides with the surface subject. To put it differently, it is the surface subject that undergoes a change-of-state that a given achievement encodes.

Interestingly, Russian inceptive verbs exhibit all of the properties that we have seen in this section. In particular, they are incompatible with ***za** X-time* adverbials (except for inceptives that allow for a slow-motion reading) (89a) and with the secondary imperfective suffix *-va* (89b) as well as exceptionally allow for a slow-motion reading (89c):

(89) a. Petja **za**pljasal *za 5 minut.
Petja started-to-dance-PERF *in 5 minutes.
'Petja started to dance in 5 minutes.'

b. *Petja zapljasy**va**l.
Petja started-to-dance-SI.
'Petja was starting to dance.'

c. Kompjuter medlenno **za**rabotal.
Computer slowly started-to-work-PERF.
'Slowly, the computer started to work.'

Moreover, as we have seen in section 4.3.1.1.2-i, inceptives (even when transitive) have their surface subject and not object as Undergoer argument. As a consequence, they do not form past passive participles. These properties reveal the achievement-like structure of Russian inceptive verbs (Nossalik 2009).

Now let us look at Russian delimitative verbs. These verbs are fascinating since, on one hand, they share many properties with inceptive achievements, yet, on the other hand, they are durational. In particular, just like inceptive verbs, not all of delimitative verbs can combine with *-va* and those that do receive an iterative and not progressive interpretation, e.g., ***po-rabaty-va-t'*** "working from time to time", *po-čity-va-t'* "reading from time to time". In addition, the Undergoer argument of delimitative verbs, just like the Undergoer argument of inceptive achievements, coincides with their surface subject and not with their surface object, even when they are transitive. As a result, unlike completive verbs, they do not form past passive participles, e.g., ***pro**čitannaja*-COMPL *kniga* "the being-read-completely book" vs. ****po**čitannaja*-DELIM *kniga* "the being-read-for-a-while book".

In section 4.3.1.1.2-i we have observed that, in Russian, events that quantify over the surface subject encode the initial rather than final boundary of a state/process. They also do not form past passive participles. Given that Russian delimitative verbs exhibit these properties, we can conclude that they must encode the event's initial boundary. In other words, they must contain an Asp_QP with the prefix *po-*/*pro-* occupying its head position and the surface subject its specifier position. This means that the Russian delimitative prefixes *po-* and *pro-* have the same function as Russian inceptive prefixes: they denote a change-of-state that results in a 'new' process/state.

What makes them different from inceptive prefixes is that they select for a durative adverbial (*po-* for a covert one, and *pro-* for an overt one) which, in its turn, provides this newly created state/process with a final boundary.[185] Using Tenny's (1987) intuition, we can say that the adverbial measures out/delimits the event, supplying it with the final boundary.[186] The adverbial also endows the event with duration.

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[185] Unlike Russian delimitative verbs with *po-*, Russian delimitative verbs with *pro-* are always derived form the stative stems. Consequently, they are always intransitive. These verbs together with the adverbial that they select for standardly encode a duration that the subject spends in a given state, e.g., ***pro**stojat' na uglu 5 minut* "stand at the corner for 5 minutes", ***pro**sidet' v tjur'me 3 goda* "stay in prison for 3 years". Without the adverbial, they would simply encode the beginning of an unlimited state. It is the adverbial that delimits this state in time.

[186] Note that in the case of delimitative verbs, the durative adverbial must attach below Asp_QP. Otherwise, instead of measuring out the state/process that was created as a result of the change-of-state encoded by Asp_QP, it would render this change-of-state iterative. The lower attachment of the adverbial is reflected by the semantic structure of delimitatives, where the adverbial modifies the AdjP: *Petja* (*nemnogo*) *po-čital knigu* "Petja read a/the book (for a while)" → *Petja* BECAME (*nemnogo*) *počitavš'im knigu* "having read

Recall that while durative adverbials can delimit events, they do not render them completed. This is what we also find in the case of Russian delimitative verbs:

(90) a. Maša **po**čitala knigu. /→ Maša **pro**čitala knigu. ***non-completed***
Masha *po*-read-PERF book. /→ Masha read-PERF book.
'Masha read a/the book for a while.' /→ 'Masha read a/the book (completely).'

b. Petja **po**est tort. /→ Petja **s**'est tort. ***non-completed***
Petja will *po*-eat-PERF cake. /→ Petja will eat-PERF cake.
'Petja will eat the cake for a while." /→ "Petja will eat the (whole) cake.'

Thus, in (90a), the mere fact that Masha read the book for a while does not entail that she read the entire book, even if event of *reading* is terminated by the ST. Nor does Petja's eating the cake for a while in (90b) entail that he ate the whole cake. On the contrary, given that the subjects were engaged in the process only for a while, we may conclude that they did not complete it. This lack of completion entailment suggests that delimited verbs do not encode the event's final boundary structurally, as the presence of a structural boundary would entail completion. Or put differently, the data in (90) indicates that durative adverbials that delimitative preverbs select for do not trigger merger of an Asp_QP. They simply delimit the newly created state/process on the time axes.

This means that as far as syntax is concerned Russian delimitative verbs are inceptive-like achievements, i.e., Asp_QPs that entail a state/process, despite the fact that they are perceived as durational. Since durative adverbials that delimitative preverbs select for simply delimit a state/process entailed by the inceptive structure of delimitative verbs, without licensing any additional aspectual projection, delimitative verbs remain structural achievements. However, because the initial point encoded by the Asp_QP never coincides with the final point specified by the adverbial, delimitative verbs are perceived as durational. Crucially, this duration is different from the duration of accomplishment verbs, as it is not structurally encoded by a *v*P.

Having looked at the syntactic structure of Russian achievements, let us consider the phrase structure of Russian accomplishments.

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a/the book for a while". A more refined analysis of Russian delimitative verbs is beyond the scope of this dissertation.

4.3.1.5.2. Accomplishments

As established in the previous subsection, Russian inceptive, semelfactive and delimitative verbs are achievements. As far as compositional telicity is concerned, this leaves us with Russian completive verbs which, as we will see shortly, are accomplishments, except for few cases of completive achievements (i.e., near-instantaneous events that quantify over the object, e.g., ***na****jti* (*ključi*) "to find (the keys)", ***u****znat'* (*kogo-to*) "recognize (someone)". Among the two telic classes of Russian verbs, the class of accomplishments is the largest one, given that Russian completive verbs represent the largest group of perfective verbs (see section 4.2).

What evidence can we find that points to an accomplishment structure for Russian completive verbs? Recall that accomplishments are complex events consisting of two subevents: a process and transition. The process subevent is encoded by the *v*P projection which renders the verb dynamic, and the transition subevent is encoded by an Asp_QP - the projection that gives rise to the event's telic interpretation. So, in order to establish the accomplishment-like structure of completive verbs, we need to determine whether these verbs exhibit the behaviour of dynamic telic verbs.

One of the properties of dynamic events is that they can appear in the progressive. As shown in (91), Russian completive verbs can be progressivized, as long as the stem that the suffix *-va* attaches to has acquired a 'new' meaning in the process of prefixation.

(91) a. Petja perečity**va**l "Vojnu i mir".
Petja reread-SI "War and Peace".
'Petja was-rereading "War and Peace".'

b. Futbolisty vyigry**va**li matč.
Soccer players won-SI match.
'The soccer players were-winning the match.'

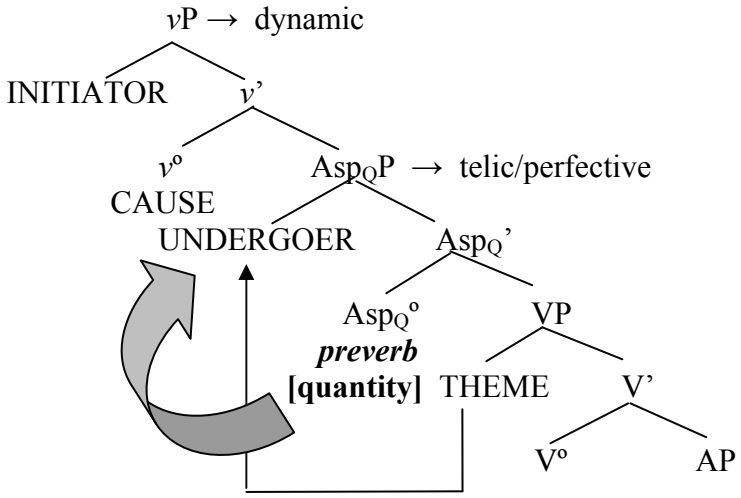
This ability to appear in the progressive discloses the dynamic nature of completive verbs. Besides being dynamic, these verbs are also telic. Thus, similarly to other telic predicates, they are incompatible with durative adverbials of *for X-time* type. Given that completive verbs contain both a transition and process subpart, they are compatible with ***za*** *X-time* "in X-time" type adverbials:

(92) a. Petja **pere**čital knigu *2 dnja/ za 2 dnja.
Petja reread-PERF book *2 days/ in 2 days.
'Petja reread a/the book *for 2 days/in 2 days.'

b. Maša **vy**igrala partiju *10 minut/za 10 minut.
Masha won-PERF game *10 minutes/in 10 minutes.
'Masha won the game *for 10 minutes/in 10 minutes.'

The data in (91) and (92) thus support our claim that Russian completive verbs are accomplishments. This means that, structurally, a completive verb is an Asp_QP embedded under a *v*P projection, with a completive lexically "empty" or "filled" preverb occupying the Asp_Q^o, as shown in (93). We can refer to the events that these verbs encode as to dynamic telic/perfective events:

(93) ACCOMPLISHMENTS or DYNAMIC TELIC EVENTS:
***pere**čitat'* "reread-PERF", ***na**risovat'* "paint-PERF", ***vy**pit'* "drink-PERF".



As has been discussed in section 4.3.1.4, Russian completive verbs are obligatorily transitive, since it is their surface object that functions as the Undergoer argument. When deprived of an aspectual value, as in the case of bare plurals and mass nouns, the Undergoer argument acquires the [quantity] value of the completive preverb occupying Asp_Q^o, via spec-head agreement. This is why the plural and mass DPs that occur as internal argument of perfective verbs always receive a quantity interpretation (Filip 1999).

(94) a. Ivan **pro**čital knigi.
Ivan read-PERF books.
'Ivan read the books.'

b. Ivan **vy**pil čaj/čaju.
Ivan drank-PERF tea-ACC/tea-GEN
'Ivan drank-PERF the tea/some of the tea.'

In (94a) and (94b), the object DPs are interpreted as referring to some quantity of *books* or *tea* known from the discourse. When the event quantifies over the entire quantity, ACC case is used. A Russian ACC DP that occurs in the scope of the PERF can be translated into English using the determiner *the*, given that *the* has both referential and totalizing functions (Lyons 1999). When the completive event quantifies over some specified part(s) of the known (from the discourse) quantity of mass, GEN case is used. In this case the Russian DP can be translated into English as "some of the *mass stuff*".

To recap, the telicity value of Russian accomplishments, just like the telicity value of English accomplishments, is computed compositionally. In particular, Russian accomplishments acquire their [quantity] feature from a completive preverb that merges directly onto Asp_Q^o. This [quantity] feature, in its turn, is copied onto the DP in [Spec, Asp_QP], through spec-head agreement. This is why in Russian a completive preverb is not only responsible for a quantity interpretation of a verbal predicate but also for a quantity interpretation of the verb's internal argument. Importantly, in Russian the direction of AGREE is upwards, from head-to-spec, as shown in (93).

Having looked at the phrase structure of Russian perfective verbs, let us see how these verbs are usually interpreted.

4.3.1.6. Delimited reading of Russian perfective verbs

As we have seen, in English, telic verbs invariably receive a delimited interpretation. This is also true of Russian telic verbs. Specifically, Russian accomplishments, encoding completed events, always entail completion, whether in past or future:

(95) a. Petja **s**'el jabloki.
'Petja ate-PERF the apples.' → Petja completed event of eating by consuming all the apples.

b. Petja **s**'est jabloki.
'Petja eat-PERF the apples.'[187] → Petja will complete the event of eating by consuming all the apples.

Unlike completive telic verbs, the delimited nature of inceptive achievements is masked by the fact that they entail an unlimited state/process. This is why one should be careful in analyzing their interpretation. In particular, we need to distinguish the state/process that inceptive achievements entail from achievements themselves. While it is true that the former is unlimited in time, the latter is not. For instance, while in ***za**pet'* "**za**-sing/start-to sign" the *singing* event may continue into the present, the change-of-state that led to the *singing* event is clearly over by the speech time.

According to our analysis, the Russian delimitative preverbs *po-* and *pro-* also encode an inceptive-like change of state. This means that the perfective verbs containing these preverbs entail a state/process, just as Russian perfective inceptive verbs do. But in addition to encoding an 'initial' change-of-state, *po-* and *pro-* select for a durative adverbial. It is this durative adverbial that delimits the state/process entailed by the change-of-state encoded by *po-* or *pro-*. As a consequence, the events encoded by perfective verbs with *po-* and *pro-* are perceived as delimited in time. In fact, these verbs are even termed *delimitative*. Being delimited in time, the events encoded by delimitative verbs resist continuation into the present:[188]

(96) a. *Maša **po**čitala knigu i prodolžaet ejo čitat'. ***delimited***
Masha *po*-read-PERF book and continues reading it.
'Masha read a/the book for a while and continues reading it.'

b. *Petja **po**el tort i prodolžaet ego est'. ***delimited***
Petja *po*-ate-PERF cake and continues eat it.
'Petja ate the cake for a while and continues eating it.'

[187] In Russian the present (tense) morphological form of perfective verbs receives a future tense interpretation. We will see why this is so shortly.

[188] Technically, the ST can split the duration of the adverbial into two, making continuation possible. In doing so, we obtained perfect rather than perfective reading of delimitative verbs. For instance, *Petja **pro**sidel v tjurme (uže) 5 let, no vsjo eš'o prodolžaet tam sidet*' "Petja has stayed in prison 5 years (already/so far), but is still there" is fine, when the period of 5 years is perceived as a subset of a larger period that Petja must stay in prison. In this reading the first conjunct is interpreted with the meaning "so far", reflecting event's perfect reading. Unfortunately, perfect is not marked in Russian, which makes the data somewhat confusing.

In sum, Russian achievements, whether completive, inceptive or delimitative, as well as Russian accomplishments (not inflected with *-va*) are interpreted as delimited in time, although the delimitedness of inceptive achievements is veiled by the fact that they entail an infinite state/process. Given that Russian telic *v*Ps, similarly to their English counterparts, entail delimitedness, we do not need to postulate an outer aspect projection filled by [+bounded] to explain a delimited interpretation of (bounded) accomplishments, i.e., accomplishments that lack the suffix *-va*.

Having looked at the aspectual interpretation of Russian achievements and simple accomplishments, let us examine why their interpretation is tense-dependent.

4.3.1.7. Interaction between perfective aspect and tense

As has been mentioned before, the view that Russian perfective verbs form a class of telic verbs is not a standard one. If telicity is not a determining factor for perfectivity, then how do linguists who consider Russian aspectual classes to be telicity independent know when a given verbal predicate is perfective or not? After all, they cannot use the definition of telicity to single out perfective verbs. This is where the perfectivity diagnostics presented in section 4.1 come into play. Only verbs that exhibit certain behaviour under these diagnostics are classified as perfective. In particular, to be perfective a verb must have a present tense form that has a future rather than present tense reading. It also should not be able to form the analytic future.[189] While these diagnostics divide Russian verbal predicates into perfectives and imperfectives, they do not explain why these two aspectual groups exhibit the opposite behaviour in respect to tense. In this section, I will provide an explanation as to why Russian perfective verbs behave the way they do, when appearing in different tense forms.

One of the defining characteristics of perfective verbs is that their morphologically present forms cannot receive a present tense ongoing event interpretation.[190] I believe that

[189] In this section, I only review the perfectivity diagnostics that stem from interaction between tense and aspect. I believe that the fourth of the diagnostics presented in the section 4.1, i.e., the Complement diagnostic - the diagnostic which states that perfective verbs are incompatible with phase verbs, reveals the telic status of these verbs. Besides, this diagnostic fails to properly classify imperfective verbs. Readers are referred to section 4.1 for more details on the perfectivity diagnostics.

[190] Although Russian has only two morphologically distinct tense forms, past and present, it can encode the future tense that is distinct from the present tense with help of auxiliary *byt'* "will". Thus, Russian IMP verbs can appear in all 3 tenses, e.g., *pisal*-IMP,pst, *pišet*-IMP, pres, *budet pisat'*, fut "write". Just because

it is their non-stative nature that blocks this interpretation. The inability of perfectives to occur in the present is used in the *Ongoing event* perfectivity diagnostic repeated below for convenience:

(97) *The ongoing event diagnostic*

a. *V dannyj moment Maša **za**poet/**s**poet pesnju.
At this moment Masha *za*-sings-PERF/sings-PERF song.
Intended: 'At this moment, Masha is-starting-to-sing/is-singing (completely) a/the song.'

b. *V dannyj moment Maša **pro**čitaet/**pere**čitaet Petinu statju.
At this moment Masha reads-PERF/rereads-PERF Petja's article.
Intended: 'At this moment, Masha is-reading/is-rereading (completely) Petja's article.'

One of the observations that we have seen in section 3.4 in relation to English verbal predicates is that English Asp_QPs and *v*Ps, encoding non-progressive non-stative events, are incompatible with the present tense. As a result, they cannot receive an ongoing event interpretation.[191]

Just like English non-stative verbs, for Russian perfective verbs to be compatible with present, they must be inflected with a morpheme that triggers the merger of the outer aspect projection, i.e., the secondary imperfective suffix *-va*. Because adding *-va* yields verbal forms that can receive an ongoing event interpretation, these forms have been labelled 'imperfectives'. And to reflect the fact that they contain a perfective-like base, i.e., that they are achievements or accomplishments at the *v*P level, their label has been refined to 'secondary imperfectives'. Note, once again, that the terms *perfective* and *imperfective* refer to verbal classes that behave in a certain way with respect to the present tense. Verbs that are compatible with this tense are labelled as *imperfective* and those that are not are labelled as *perfective*.

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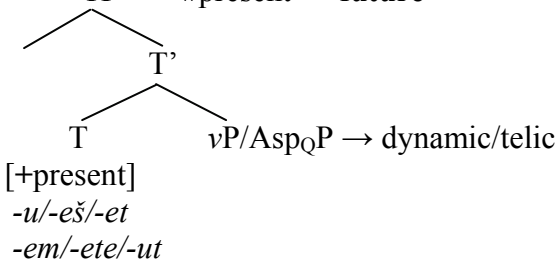
the future tense form of Russian IMPs is complex (i.e., formed with the auxiliary *byt'* "will" and the verbal infinitive), it does not mean that Russian lacks the [+future] tense in syntax. The reason why Russian perfective verbs do not have present/future distinction is because the interpretation of their present tense form is shifted into the future, which leaves no 'space' for yet another future form.

[191] Interestingly, unlike English non-stative events, Russian perfectives cannot be used in reported speech or historical present. This may be related to the fact that in Russian we have shifting in tense rather than aspect.

Our comparison of Russian perfectives and English non-progressive non-stative verbs leads to two questions. First, what happens with Russian perfective verbs that are not inflected with *-va*? Are they totally banned from the system or do they, just like English non-progressive non-stative events, undergo a semantic shift? Second, why in Russian are only two, as opposed to three, classes of verbal predicates incompatible with present? What happens with Russian simple activities? Why do they not 'conflict' with the present tense? Let me address these questions, starting with one concerning the interpretation of present perfective verbal forms.

Just like English non-progressive non-stative verbs, perfective verbs inflected with present tense morphology do exist in Russian, e.g., *čita**et*** "is-reading-IMP" vs. *pročita**et*** #"is-reading-PERF", *perečita**et*** #"is-rereading-PERF".[192] Yet, as we have seen in (97), in spite of carrying a present tense morpheme, e.g., *-et* in (97), these forms do not acquire a present tense interpretation. Instead, they receive a semantically shifted interpretation, just as their English counterparts do. In other words, just like English achievements, simple activities and simple accomplishments, Russian achievements and simple accomplishments undergo what we have assumed to be a post-syntactic operation that alters their present tense interpretation, as shown in (98).

(98) TP → #present → **future**



Although this shifting operation functions as a repair strategy that saves an otherwise doomed derivation in both Russian and English, it differs in one important respect in these two languages. While in English the shifting is into the habitual, in Russian it is into the future. It is this behavioural characteristic of Russian perfectives that is used in the *Synthetic future* perfectivity diagnostic:

[192] Recall that, in Russian, present tense morphemes are fused morphemes that in addition to present tense indicate person agreement. This is why there are six of them.

(99) *The synthetic future diagnostic*

a. Skoro Maša **za**poet/**s**poet pesnju.
Soon Masha *za*-signs-PERF/sings-PERF song.
'Soon, Masha will start singing/ will sing (completely) a/the song.'

b. Skoro Maša **pro**čitaet/**pere**čitaet Petinu statju.
Soon Masha reads-PERF/rereads-PERF Petja's article.
'Soon, Masha will read /will reread (completely) Petja's article.'

Closely related to this characteristic is the inability of Russian perfective verbs to form the analytic future with the help of the inflected auxiliary *byt'* "to be" that functions similarly to the English future tense auxiliary *will*. This is what we see in the *Analytic future* perfectivity diagnostic:

(100) *The analytic future diagnostic*

a. *Čerez 10 minut Maša **budet** zapet'/spet' pesnju.
In 10 minutes Masha will *za*-sing-PERF/sing-PERF song.
Intended: 'In 10 minutes, Masha will will-start singing/sing a/the (entire) song.'

b. *Čerez 10 minut Maša **budet** pročitat'/perečitat' Petinu statju.
In 10 minutes Masha will read-PERF/reread-PERF Petja's article.
Intended: 'In 10 minutes, Masha will will-read/reread (completely) Petja's article.'

The inability of perfective verbs to form the analytic future follows from the fact that these verbs already have synthetic forms with future meaning. Russian simply avoids having two different forms expressing the same meaning.[193]

Just as inability of Russian perfective verbs to appear in analytic future follows from their ability to receive a future tense interpretation, so does the latter follow from the fact that these verbs are incompatible with the present tense. Hence, it is the incompatibility with the present tense that is a defining property of Russian perfective verbs. Uncovering this important property of perfective verbs should help us to understand why Russian activities are not considered to be perfective. This is precisely

[193] Since, this restriction is without exceptions, we can formulate it in structural terms: in Russian, T $_{[+present]}$ can only merge onto a structure that lacks an aspectual projection (i.e., stative IMPs) or contains an outer AspP (i.e., dynamic IMPs). This restriction would automatically ban T $_{[+present]}$ from merging onto a telic *v*P. In the case of telic *v*Ps, T can acquire the [+future] feature only by overriding [+present] feature.

because their present tense forms have a present and not future tense reading. But why are Russian activities compatible with the present tense?

Our analysis of English in section 3.4, has led us to the conclusion that compatibility with the present tense correlates with the syntactic structure of events. Only events that are encoded by an Asp_QP or a *v*P are incompatible with the present. Translating this observation into Russian, the fact that in Russian only achievements and simple accomplishments are incompatible with the present suggests that only these verbs are encoded by an Asp_QP or a *v*P. Unlike English activities, Russian activities cannot be analyzed as being simply *v*Ps. For if they were, they would be incompatible with the present tense as well as undergoing a semantic shift, just as English simple activities do. Because in Russian the shifting operation is into the future, they would block the formation of the analytic future, just as Russian achievements and simple accomplishments do. Yet, Russian activities do none of these things.

Given that with respect to tense Russian activities display different behaviour from Russian achievements and simple accomplishments as well as from English achievements, simple activities and simple accomplishments, I conclude that they are not (simply) *v*Ps. In other words, unlike English activities, Russian activities, cannot be syntactically simple (i.e., lack an outer aspect projection), despite their apparent morphological simplicity. We will discuss the exact structure of Russian activities at more length in the chapter dedicated to Russian imperfectives, where we will see that these verbs exhibit properties of unbounded events.

To summarize, in this section we have established that the defining property of Russian perfective verbs is their inability to receive a present tense reading. This behavioural property reflects these verbs' syntactic structure. In particular, Russian achievements and simple accomplishments, similar to English achievements, simple activities and simple accomplishments, are incompatible with the present tense because they are structurally Asp_QPs or *v*Ps. The compatibility of Russian activities with the present tense led us to the conclusion that these verbs, unlike English simple activities, are not simply *v*Ps.

4.3.1.8. Concluding remarks: Russian perfectives

In this chapter we have investigated Russian perfective verbs from different perspectives: morphological, semantic and syntactic. We also looked at the interpretational properties of perfective verbs as well as at the ways these verbs interact with tense.

One of the most important conclusions that we have arrived at in this chapter is that the term *perfectivity* singles out the same set of Russian verbal predicates as the term *telicity*. Whether coincidently or not, a class of Russian telic verbs, including achievements and simple accomplishments, is also a class of Russian perfective verbs. From the structural perspective this means that for a verb to be perfective/telic it must contain an inner aspect projection and lack an outer aspect projection.

To be properly formed, a perfective/telic verb must obey two syntactic conditions: (i) the *v*P-internal *Quantity phrase* (Asp_QP) must be merged and (ii) the open value of the Asp_Q^o must be assigned a range (Borer 2005). While the same set of elements that license merger of an Asp_QP in English can do so in Russian (quantity DPs, path-goal PPs, or verbal prefixes or particles), Russian uses a direct rather than indirect range assigning mechanism. Specifically, when it comes to compositional perfectivity/telicity, the open value of an Asp_Q^o acquires its range from an aspectual morpheme that merges directly onto this head.

A large portion of our investigation in this chapter was focused on determining which Russian aspectual morphemes occupy an Asp_Q^o, thus fulfilling the function of both telicity and perfectivity markers. Using telicity diagnostics, we have established that Russian verbal prefixes (preverbs), including inceptive and delimitative ones, occupy an Asp_Q^o. Our morpho-syntactic analysis of Russian verbs has revealed that, with the exception of the distributive *po*-, most preverbs occupy the head of a 'lower' Asp_QP, i.e., an Asp_QP that merges in the first phase of derivation, below an outer AspP. These findings argue against the traditional division of Russian preverbs into *lexical* and *grammatical* (Stoll 2003, Pereltsvaig 2005, Babyonyshev and Kavitskaya 2006) or against the more recent division of preverbs into *lexical* and *superlexical* (Svenonius 2004, Ramchand 2004, Romanova 2007). They support the analyses promoted by linguists who view Russian preverbs as having a uniform grammatical function (Klein 1995, Kipka, 1990, Piñon 1995, Krifka 1989, 1992, Schoorlemmer 1995, Borer 2005).

According to the analysis advocated in this dissertation, the specific function of Russian preverbs (as well as the semelfactive suffix *-nu*) is that they license a well-formed Asp_QP - a projection that encodes a transition subevent. It is the presence of this subevent that endows the perfective verb with a 'telic' interpretation. Or to put it differently, it is the presence of an Asp_QP in the structure of Russian achievements (whether inceptive, delimitative or completive) and simple accomplishments that guarantees that these predicates will receive a delimited interpretation at the interface. In addition, the fact that Russian perfective verbs never receive an ongoing event interpretation suggests that they are the only verbal predicates that are structurally encoded simply by an Asp_QP or a *v*P, assuming that only these projections are 'uninterpretable', when merging directly under a [+present] TP. Unlike English activities, Russian activities cannot have a simple *v*P structure. Consequently, they are imperfectives rather than perfectives. The unexpected behaviour of Russian activity predicates leads us to a somewhat overdue discussion of Russian imperfective verbs.

Chapter 5: Russian imperfective verbs

While the syntactic structure of perfective verbs, especially the syntactic position of preverbs, has given rise to numerous discussions in the literature, the syntactic structure of imperfective verbs has been largely overlooked. Researchers simply tend to assume that the syntactic structure of imperfective verbs corresponds to their morphological structure, in that IMP verbs that lack an overt aspectual morpheme lack an aspectual projection in syntax and IMP verbs that contain two aspectual morphemes contain two aspectual projections in syntax.

In this chapter, I will argue that, as far as aspect is concerned, there is no one-to-one mapping between Russian morphology and syntax. In the system that I advocate, only Russian IMP stative verbs lack an AspP in their syntactic structure. In contrast, Russian dynamic IMP verbs contain an outer AspP, regardless of whether or not they contain an overt aspectual suffix.

We will start our investigation by looking at Russian stative verbs. Then we will turn to Russian dynamic verbs, first presenting a structure of secondary imperfectives (SI) and, then, of primary imperfectives (PI). As we will see, these classes of imperfectives each have a distinct phrase structure. What unites statives as well as primary and secondary dynamic imperfectives, is the fact that they all behave uniformly under perfectivity diagnostics. This behavioural uniformity reflects the fact that all Russian imperfective verbs generally receive an unlimited (in time) interpretation.

This being said note that Russian imperfectives can be used in delimited situations (Forsyth 1970). In section 5.2.2, I will briefly examine under what conditions imperfectives can appear in delimited situations. As we will see, in none of its uses does the IMP entail completion, supporting our claim that in Russian PERF but not IMP encodes telic events. But before we arrive at this conclusion, let us establish the phrase structure of Russian imperfective verbs.

5.1. The phrase structure of Russian imperfective verbs

There are two types of imperfective verbs in Russian: those that lack and those that contain an outer aspect projection. The most obvious class of imperfective verbs that lack

an outer AspP is the class of stative verbs, while the most obvious class of imperfective verbs that contain an outer AspP is the class of secondary imperfectives. We start with stative verbs.

5.1.1. Stative imperfectives

Russian stative verbs, just like English stative verbs, describe static situations that lack any internal structure. Being truly homogenous, these verbs always behave as imperfectives with respect to perfectivity diagnostics. Specifically, like English stative verbs, they are compatible with the present tense and consequently do not undergo a semantic shift (into the future):

(1) *The ongoing event diagnostic*

a. V dannyj moment Maša bollet.
At this moment Masha is-being-sick-IMP.
'At this moment, Masha is sick.'

b. V dannyj moment Maša nenavidit Petju.
At this moment Masha hates-IMP Petja.
'At this moment, Masha hates Petja.'

(2) *The synthetic future diagnostic*

a. *Vskore Maša bollet.
Soon Masha is-being-sick-IMP.
Intended: 'Soon, Masha will be sick.'

b. *Vskore Maša nenavidit Petju.
Soon Masha hates-IMP Petja.
Intended: 'Soon, Masha will hate Petja.'

Given that the synthetic form of states does not acquire a future interpretation, one must use the analytic future (consisting of auxiliary *byt'* "will" plus an infinitival form of the state) to express a future stative event:

(3) *The analytic future diagnostic*

a. Vsju sledujuš'uju nedelju Maša **budet** bolet'.
All next week Masha will be-sick-IMP.
'All of next week, Masha will be sick.'

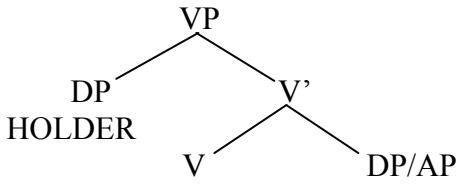
b. Vsju sledujuš'uju nedelju Maša **budet** nenavidet' Petju.
All next week Masha will hate-IMP Petja.
'All of next week, Masha will hate Petja.'

Because Russian states do not express any process or change-of-state, they are considered to be non-dynamic atelic events (see 4). From a syntactic perspective, the non-dynamic nature of states indicates that they lack a causative *v*P projection. Being atelic, they also lack an Asp_QP.

(4) Maša bolela 3 mesjaca/*za 3 mesjaca. ***atelic***
Masha was-sick-IMP 3 month/*in 3 month.
'Masha was sick for 3 months/*in 3 months.'

This means that with respect to their syntactic structure, Russian stative verbs are identical to English stative verbs. They are simply VPs as shown in (5). And as expected, their subject is interpreted as the HOLDER of the state, while the internal argument (if present) further describes the state (Ramchand 2008). It is their compatibility with the present tense that earned them the label imperfectives.

(5) STATES: *ljubit'* "to love"*, znat'* "to know", *verit'* "to believe"



Having looked at stative verbs, let us consider dynamic imperfective verbs.

5.1.2. Dynamic imperfectives

There are two morphologically distinct classes of imperfective dynamic verbs in Russian. One is a class of morphologically 'simple' activity verbs and the other is a class of morphologically complex accomplishments. The former class is also known as the class of non-stative primary imperfectives (PIs) and the latter class as the class of secondary imperfectives (SIs).

In this section I will argue that Russian SIs and PIs both contain an outer aspect projection. While the outer aspect projection of SIs is filled by the suffix *-va*, the outer aspect projection of PIs is filled by the Ø-morpheme that carries the feature [unbounded]. My claim will be based on the comparative analysis of English and Russian verbal systems. Let me discuss SIs first.

5.1.2.1. Secondary imperfectives

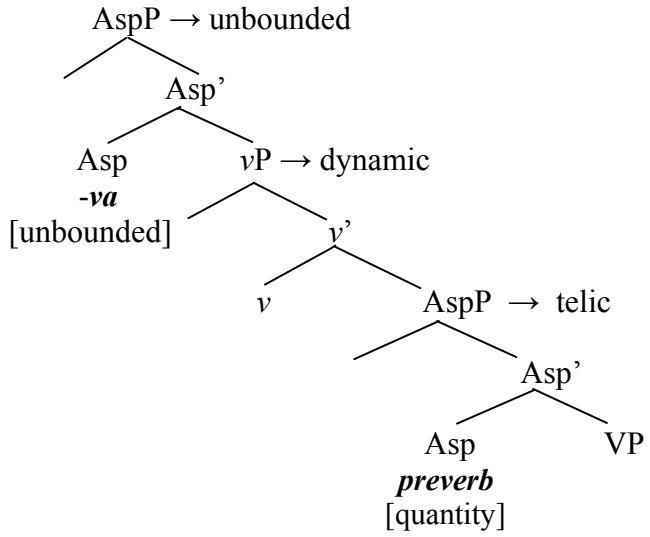
Secondary imperfectives are verbal forms with a straightforward mapping between morphological and syntactic structures. To observe this mapping, let us review the morphological structure of SIs.

Recall that SIs are verbal forms that, unless idiosyncratic, contain two aspectual morphemes: a preverb and the suffix *-va*:

(6) SI = **preverb** + ROOT + ***-va*** + T/AGR

It is standardly assumed that each of these aspectual morphemes licenses its own aspectual projection (Slabakova 2001, Svenonius 2004). In the system that limits the number of aspectual projections to two, this automatically means that while the preverb in SIs occupies the inner aspect projection, *-va* occupies the outer aspect projection:

(7) SECONDARY IMPERFECTIVES or UNBOUNDED DYNAMIC TELIC EVENTS: ***vy-igry-va-t'*** "to win", ***pere-čity-va-t'*** "to reread"

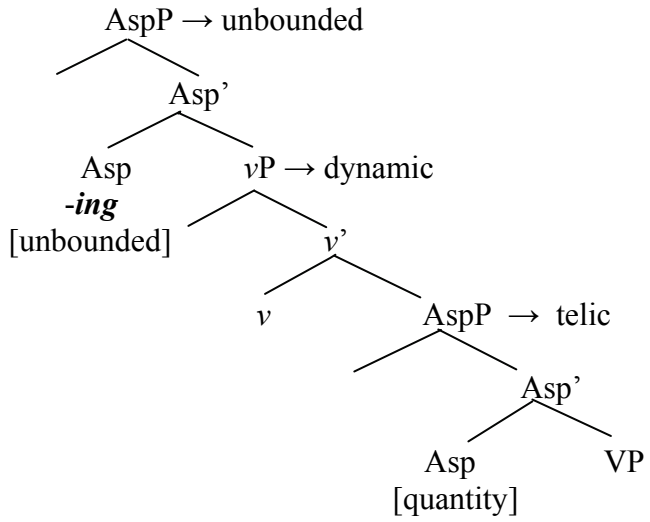


This analysis accounts for the selectional properties that *-va* exhibits. Merging above the *v*P, *-va* is able to select for a dynamic telic base.

Let us see what other reasons there are to associate *-va* with the outer aspect projection. This is where comparing the properties of Russian SIs with their English structural counterparts will be helpful. We can then use our knowledge of English outer aspect (see Chapter 3) to draw some conclusions about Russian outer aspect. To do so, let us remind ourselves what properties English *unbounded dynamic telic* events have.

First, recall that English verbs that have the structure parallel to (7) are known as progressive accomplishments (see section 3.5.2.2). I repeat their structure below in (8):

(8) PROGRESSIVE ACCOMPLISHMENTS or UNBOUNDED DYNAMIC TELIC EVENTS: *drinking a cup of coffee*, *painting the portraits*



On a single event reading, adding *-va* (in Russian), just like adding *-ing* (in English), to a telic *v*P has the effect of 'cutting off' the transition part of a given event. As a consequence, Russian verbal forms with *-va*, similarly to English verbal forms with *-ing*, exhibit the Imperfective paradox. Specifically, they do not entail completion, even when they are derived from a completive telic stem:

(9) a. 20 minut nazad Petja **pere**pisy**va**l svojo pis'mo. -/→ Petja **pere**pisal svojo pis'mo.
20 minutes ago Petja copied-SI his letter. -/→ Petja copied-PERF his letter.
'20 minutes ago, Petja was copying his letter.'-/→ 'Petja copied his letter.'

b. 20 minut nazad Spartak **vy**igry**va**l matč. -/→ Spartak **vy**igral matč.
20 minutes ago Spartak won-SI match. -/→ Spartak won-PERF match.
'20 minutes ago, Spartak was winning the match'. -/→ 'Spartak won the match.'

It is precisely because -*va* marks the verbs in (9) as unbounded and because the [unbounded] feature syntactically dominates the verb's [quantity] feature that the sentences in (9), receiving an ongoing event interpretation, do not entail completion.

Just like English -*ing*, Russian -*va* not only alters the aspectual interpretation of the verbal predicate but can also change the aspectual interpretation of the Undergoer argument. Thus, while the Undergoer of telic/perfective verbal predicates is always interpreted as quantity, it loses this quantity interpretation when in the scope of the IMP operator. As a result, the quantity Undergoer argument occurring with secondary imperfectives (on their single event reading) receives a partial non-quantity reading:

(10) a. Petja **pere**čity**va**l eti knigi včera.
Petja reread-SI these books yesterday.
'Petja was rereading these books yesterday.'

b. Maša **pod**pisy**va**la dokumenty.
Masha signed-SI documents.
'Masha was signing (the) documents.'

For instance, (10a) and (10b) do not provide any information about the quantity of books that Petja read or documents that Masha signed. This is because in these sentences, the DPs *eti knigi* "these books" and *dokumenty* "documents" are interpreted as unbounded in space. Importantly, this does not mean that these DPs cannot refer to entities defined in the discourse. In fact, the bare DP in (10b) can be interpreted as either definite or indefinite, as can be seen from the sentence's translation. Crucially though, when referring to a definite entity, it cannot refer to its specified (in the discourse) quantity, but only to some non-empty parts of this quantity. To put it differently, even when referential, the DP in (10b) does not describe the actual boundaries of the referent noun, but simply this noun's 'internal' parts.

Notice that this unbounded interpretation of Russian definite-like DPs that occur in the scope of the SI marker -*va* strikingly resembles the interpretation of English definite DPs in the scope of the English progressive marker -*ing*. Recall that with respect to

English definite DPs, we have reached the conclusion that with progressive episodic events, the definite article *the* does not delimit the noun referent (in space), but simply identifies it. As a result, a definite DP that occurs with progressive that is interpreted as a single event receives an unbounded/partial interpretation rather than a quantity/total one (see section 3.3.2.1).

Not surprisingly, Russian quantity DPs behave in the same way when in the scope of a SI. Thus, although in (10a), the demonstrative DP *eti knigi* "these books" is clearly defined in the discourse, it cannot be interpreted as specifying the entirety of "these books". With SI, *eti knigi* can only receive a partial reading of the referent noun:

(11) Petja **pere**čity**va**l eti knigi včera.
Petja reread-SI these books yesterday.
'Petja was rereading these books yesterday.' → Petja reread parts/#all of these books.

Similarly to English, in Russian not only demonstrative DPs, but also overtly quantized DPs, when in the scope of SI, obligatorily receive an unbounded interpretation:

(12) a. Petja **pri**kuri**va**l tri sigarety. #sequential /√simultaneous
Petja *pri*-smoke-SI three cigarettes.
'Petja was lighting up three cigarettes.'

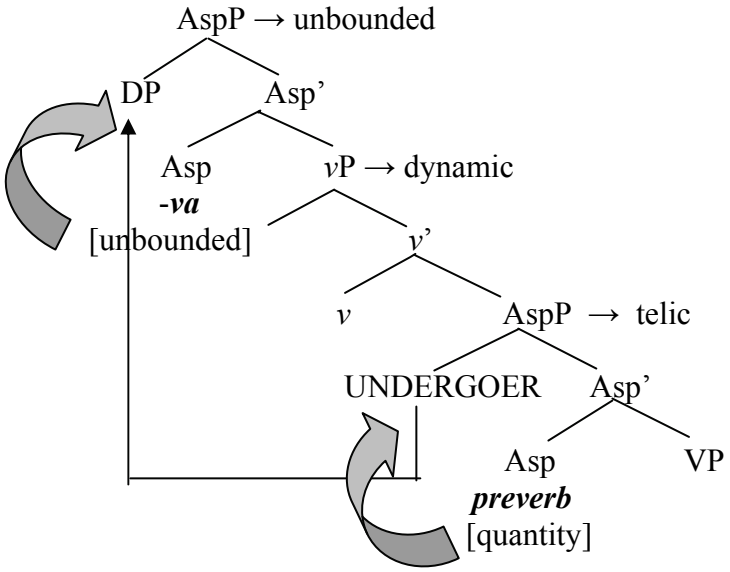
b. ???Maša **pere**čity**va**la vsju knigu.
Masha reread-SI whole book .
'Masha was rereading the entire book.'

Just like English cardinal DPs, Russian cardinal DPs lose their quantity sequential reading (on a single event reading), only allowing for an unbounded-like simultaneous interpretation. Because the quantity DP *vsju knigu* "the whole book" in (12b) cannot preserve its meaning under an unbounded interpretation, it is incompatible with the SI verb *perečityvala* "reread-SI".

The data in (9), (10), (11) and (12) suggest that *-va* indeed occupies the outer aspect projection. This is precisely why *-va*, similarly to *-ing*, performs a double function: (1) it renders the verbal predicate in the outer Asp^{o} unbounded in time and (2) it makes the DP in the [Spec, AspP] unbounded in space. While the former is achieved through direct merger of an aspectual morpheme into the Asp^{o}, the latter is achieved through the spec-

head agreement that holds between the verbal predicate in Aspº and the nominal predicate in [Spec, AspP]. First, the verbal predicate, receives its [unbounded] feature from *-va/-ing* by moving into Aspº and, then it transmits this feature upwards to the DP that has moved into the [Spec, AspP].

(13) SECONDARY IMPERFECTIVES or UNBOUNDED DYNAMIC TELIC EVENTS: ***vy-igry-va-t'*** "to win", ***pere-čity-va-t'*** "to reread".



As can be seen from (13), in Russian, just like in English, AGREE applies within both Asp_QP and AspP. While the direction of AGREE within Asp_QP is the opposite in these two languages, i.e., upwards in Russian and downwards in English, the direction of AGREE within AspP is the same. In particular, in both languages the verbal predicate in Aspº transmits its [unbounded] feature upwards to the nominal predicate in [Spec, AspP].

Apart from overriding the quantity value of the verbal base as well as of the Undergoer argument, *-va* performs yet another function. It makes an underlying non-stative dynamic event compatible with the present tense, by licensing a projection that introduces RT – a time coordinate that functions as an intermediary between ET and ST. As a consequence, unlike morphologically present forms of simple accomplishments, i.e. *preverb* + ROOT + AGR/T, morphologically present forms of complex accomplishments, i.e., *preverb* + ROOT + *-va* + AGR/T, have a present tense rather than a future tense interpretation:

(14) *The ongoing event diagnostic*

a. *V dannyj moment Maša **pere**čitaet Petinu statju. ***perfective***
At this moment Masha rereads-PERF Petja's article.
Intended: 'At this moment, Masha is-rereading Petja's article.'

b. V dannyj moment Maša **pere**čity**va**et Petinu statju. ***imperfective***
At this moment Masha rereads-SI Petja's article.
'At this moment, Masha is-rereading Petja's article.'

(15) *The synthetic future diagnostic*

a. Čerez 10 minut Maša **pere**čitaet Petinu statju. ***perfective***
In 10 minutes Masha rereads-PERF Petja's article.
'In 10 minutes, Masha will reread Petja's article.'

b. *Čerez 10 minut Maša **pere**čity**va**et Petinu statju. ***imperfective***
In 10 minutes Masha rereads-SI Petja's article.
Intended: 'In 10 minutes, Masha will reread Petja's article.'

Because the present forms of complex accomplishments do not acquire a future tense interpretation, these verbs must take an auxiliary *byt'* "will" to express future. In other words, unlike simple accomplishments, complex accomplishments have analytic rather than synthetic future forms:

(16) *The analytic future diagnostic*

a. *Čerez 10 minut Maša **budet pere**čitat' Petinu statju. ***perfective***
In 10 minutes Masha will reread-PERF Petja's article.
Intended: 'In 10 minutes, Masha will reread Petja's article.'

b. Čerez 10 minut Maša **budet pere**čity**va**et Petinu statju. ***imperfective***
In 10 minutes Masha will reread-SI Petja's article.
'In 10 minutes, Masha will be rereading Petja's article.'

In the system that takes compatibility with the present tense to be a distinctive property of imperfective verbs, the fact that complex accomplishments are compatible with present (and, as such, do not undergo a semantic shift into the future and allow for analytic future) means that they are *imperfectives*. Because these verbs contain a perfective/telic base, they are labelled *secondary*, in contrast to *primary* imperfectives which contain an atelic base.

To sum up, in this section we have seen three pieces of evidence that confirm the analyses according to which the Russian SI suffix *-va*, like English *-ing*, occupies an outer aspect projection (Slabakova 2001, Svenonius 2004). Belonging to outer aspect, *-va* (1) overrides a quantity value of the verbal base it attaches to; (2) can override a quantity value of the Undergoer argument; (3) makes the non-stative dynamic base that it attaches to compatible with present, blocking its semantic shift into the future.[194]

Isolating the properties related to outer aspect will help us to determine the syntactic structure of primary imperfectives – the task to which we turn next.

5.1.2.2. Primary imperfectives

When it comes to primary imperfectives, the standard assumption is that these verbs are syntactically simple activities. Translating this claim into the system advocated in this dissertation, this implies that PIs lack both the inner and outer aspect projections, being simple *v*Ps.

This analysis seems to be supported by the simple morphological structure of Russian PIs. In particular, since PIs lack overt aspectual markers, i.e., they simply consist of ROOT + AGR/T, e.g., *čita-t'* "to read", *pisa-t'* "to write", it is logical to assume that they also lack syntactic projections that usually host such markers, e.g., a preverb and *-va*.

While the claim that Russian PIs, encoding activity events, lack an inner Asp_QP is undeniable, the claim that they also lack an outer AspP is unsupported by Russian data. For one thing, Russian activities fail to exhibit the behaviour of syntactically simple non-stative events, i.e., non-stative events that lack an outer AspP. To see why let us refresh our memory on how exactly such events behave.

In Chapter 2 and Chapter 4 we have seen that, in contrast to stative events, non-stative events are incompatible with the present tense, unless they contain an outer aspect projection. As a repairing strategy, the interpretation of these verbs undergoes a semantic shift which is into the habitual in English and into the future in Russian. Peculiarly, the morphologically present forms of Russian activities never shift (into the future).

[194] The second function of *-va* is limited to an ongoing event interpretation. Thus, in its iterative function *-va* does not 'override' the quantity value of Undergoer argument.

Consequently, they are incompatible with a future tense reading, in contrast to their accomplishment counterparts, i.e., prefixed verbs that contain the same root:

(17) *The synthetic future diagnostic*

a. Skoro Maša **pro**čitaet Petinu statju. ***accomplishment***
Soon Masha reads-PERF Petja's article.
'Soon, Masha will read Petja's article.'

b. *Skoro Maša čitaet Petinu statju. ***activity***
Soon Masha reads-PI Petja's article.
Intended: 'Soon, Masha will read Petja's article.'

Because Russian activities do not undergo a semantic shift into the future, they, unlike their accomplishment counterparts, must take the auxiliary *but'* "will" to express future:

(18) *The analytic future diagnostic*

a. *Čerez 10 minut Maša **budet pro**čitat' Petinu statju. ***accomplishment***
In 10 minutes Masha will read-PERF Petja's article.
Intended: 'In 10 minutes, Masha will read Petja's article.'

b. Čerez 10 minut Maša **budet** čitat' Petinu statju. ***activity***
In 10 minutes Masha will read-PI Petja's article.
'In 10 minutes, Masha will be reading Petja's article.'

But why do Russian activities, unlike English simple activities as well as Russian and English simple accomplishments and achievements, not undergo a semantic shift? Recall that the shift is only required for events that are not compatible with the present tense. But Russian activities are compatible with the present tense:

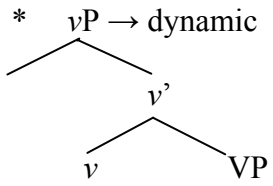
(19) *The ongoing event diagnostic*

a. *V dannyj moment Maša **pro**čitaet Petinu statju. ***accomplishment***
At this moment Masha reads-PERF Petja's article.
Intended: 'At this moment, Masha is-reading Petja's article.'

b. V dannyj moment Maša čitaet Petinu statju. ***activity***
At this moment Masha reads-PI Petja's article.
'At this moment, Masha is-reading Petja's article.'

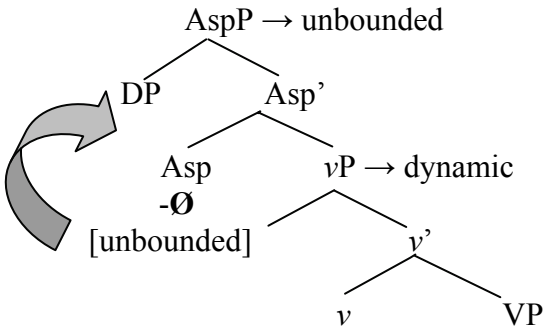
In the system developed in this dissertation, the fact that Russian activities do not undergo a semantic shift (into the future) suggests that, unlike English activities, they are not syntactically simple events, despite their apparent morphological simplicity. In other words, Russian activities never have the structure in (20). For, if they did, they would, at least optionally, undergo a semantic shift into the future.

(20) PRIMARY IMPERFECTIVES or *DYNAMIC (ATELIC) EVENTS:
igra-t' "to play", *čita-t'* "to read", *pisa-t'* "to write".



But if Russian activities cannot have the structure in (20), then what structure do they have? In what follows I will argue that, despite their apparent simplicity, Russian PIs always contain an outer aspect projection, filled by the Ø-morpheme that is associated with the [unbounded] feature, as shown in (21):

(21) PRIMARY IMPERFECTIVES or UNBOUNDED DYNAMIC (ATELIC) EVENTS:
igra-t' "to play", *čita-t'* "to read", *pisa-t'* "to write".



My claim is based on the fact that Russian PIs exhibit behaviour that we have singled out as indicating the presence of the outer AspP. Thus, our analysis of SIs in the previous section led us to the conclusion according to which events that contain an outer aspect projection: (1) are compatible with present, and, consequently, do not undergo a semantic shift into the future and allow for the analytic future form; (2) are interpreted as

unbounded; (3) can have an unbounded single event or iterative reading. Moreover, the quantity internal argument of events containing an outer AspP receives an unbounded/partial interpretation under a single event reading.

As we have seen, Russian PIs behave similarly to SIs with respect to the present tense in that they are compatible with it and, consequently, do not undergo a semantic shift into the future and must take the auxiliary *byt'* "will" to express the future (17) – (19). It is their compatibility with the present that earned them the term *imperfectives*.[195] This behaviour of activities reveals the presence of the outer AspP – the projection that renders non-stative events compatible with the present tense, by introducing the RT time coodinate.

When it comes to the property (2) listed above, it is hard to tell from the meaning of activities alone whether they are simply atelic *v*Ps or also contain the [unbounded] AspP. This is because both atelic and unbounded structures receive an unlimited (in time) interpretation. Only in languages that mark unboundedness overtly, is it possible to observe the distinction between syntactically simple and complex activities, e.g., English unbounded activities, in contrast to simple ones, contain *-ing*. Given that Russian is not one of these languages, we cannot use the property (2) to determine the structure of Russian PIs. We can, however, use the property (3).

Intriguingly, unlike other non-stative syntactically simple events (events lacking an outer AspP), Russian activities can receive an iterative interpretation:

(22) a. *Maša často **pro**čitaet/**pere**čitaet Petinu statju. ***accomplishment***
Masha often reads/rereads-PERF Petja's article.
'Masha often reads/rereads Petja's article.'

b. Maša často **pere**čity**va**et Petinu statju. ***complex accomplishment***
Masha often rereads-SI Petja's article.
'Masha is often rereading Petja's article.'

c. Maša často čitaet Petinu statju. ***activity***
Masha often reads-PI Petja's article.
'Masha is often reading Petja's article.'

[195] And because they do not change the aspectual value of the base (from telic to unbounded), they are named *primary* (imperfectives).

Thus, in (22), the Russian activity behaves on a par with the syntactically complex accomplishment rather than the simple accomplishment. If we assume that Russian activities are simply atelic predicates – the standard assumption that we find in the literature, then we need to explain why they, but not their telic counterparts (i.e., accomplishments), can acquire an iterative reading.[196] If, however, we assume that Russian activities (PIs), just like complex accomplishments (SIs), are syntactically complex, then this 'unusual' reading is accounted for, given that the outer AspP is a projection that standardly licences an iterative reading.

So far we have determined two functions that the Ø-morpheme associated with the [unbounded] feature performs, when attached to an activity verb. First, it makes the event encoded by the activity verb compatible with the present. Second, it endows this event with unbounded multiple/iterative reading. But there is another function that this morpheme performs. It transmits its [unbounded] feature, via spec-head agreement, to the DP that occupies [Spec, AspP]. By doing so, it forces a quantity DP that has moved into [Spec, AspP] to receive an unbounded/partial interpretation, overriding its quantity value. This can be seen from the data below:

(23) Petja čital eti knigi včera.
Petja read-PI these books yesterday.
'Petja was reading these books yesterday.' → 'Petja read parts/#all of these books.'

(24) a. Petja čital tri gazety. #sequential /√simultaneous
Petja read-PI three newspapers.
'Petja was reading three newspapers.'

b. ???Maša čitala vsju knigu.
Masha read-PI whole book .
'Masha was reading the entire book.'

In (23), despite its definiteness, the DP *eti knigi* "these books" cannot be interpreted as referring to the 'entirety' of "these books". Instead, it receives an unbounded partial interpretation. Likewise, in (24a), the overtly quantized DP *tri gazety*

[196] Crucially, the shifting operation that we postulated for non-stative simple predicates cannot be held responsible for the iterative reading of Russian activities, given that in Russian the shift is into the future and not into the habitual. Postulating a separate shifting operation (into the habitual) for activities, as opposed to that for accomplishments and achievements is completely at hoc and is in conflict with other pieces of evidence brought forward in this chapter in favor of the complex structure of Russian activities.

"three newspapers" can only be interpreted as having an unlimited simultaneous reading. Since *vsja kniga* "whole book" in (24b) cannot be coerced into an unbounded DP without losing its meaning, it is incompatible with *čitat'* "to read".[197]

The data in (23) and (24) illustrate that the internal argument of Russian activities moves into [Spec, AspP], this being the only position where it can acquire the unbounded interpretation. These data also support our assumption that AGREE not only holds in the case of unbounded accomplishments but also in the case of unbounded activities (section 3.3.2.1).

To recap, our analysis of Russian activities (PIs) has revealed that they, contrary to common belief, contain an outer aspect projection in their syntactic structure, filled by the Ø-morpheme – a phonologically empty aspectual morpheme associated with the feature [unbounded]. This analysis explains why Russian activities (1) are compatible with the present; do not undergo a semantic shift into the future and allow for the analytic future form; (2) can acquire an iterative reading; (3) can 'override' the aspectual value of the quantity internal argument – behaviour that needs to be accounted for if one assumes that Russian activities lack an outer AspP.

This analysis of Russian activities postulates that two classes of dynamic imperfective verbs in Russian, i.e., (unbounded) activities (dynamic PIs) and unbounded accomplishments (SIs), contain an outer AspP. The fundamental structural distinction between dynamic PIs and SIs is that only the latter contain a *v*P-internal Asp_QP – a projection that, in the case of SIs, hosts a preverb. Moreover, while the outer aspect of SIs is marked by the overt morpheme *-va*, the outer aspect of PIs is marked by the phonologically empty Ø-morpheme.

In conclusion, examination of Russian dynamic primary and secondary imperfectives leads to the conclusion that these predicates, similar to English progressive activities and accomplishments, are morpho-syntactically complex. This implies that, as far as dynamic verbs are concerned, imperfectivity entails the presence of an outer aspect projection, just as perfectivity entails the presence of the inner aspect projection (and absence of the outer AspP). Before I conclude the chapter on Russian imperfectives, let

[197] Non-coincidentally, quantity DPs exhibit similar behaviour with SIs, as these predicates too contain an outer AspP (see 5.1.2.1).

me deal with objections that have been raised in the literature, concerning views on imperfectivity similar to the one we have arrived at.

5.2. Russian imperfectives vs. English progressive

Filip (1999, 2005) maintains that Slavic imperfectives should not be treated on a par with the English progressive, contra Zucchi (1999). Her objection is partially motivated by the fact that the class of imperfective verbs includes states, while the class of progressive verbs does not. Indeed, English states normally cannot be progressive, while Russian states are standardly imperfectives.

At this point we need to remind ourselves what the terms *imperfectivity* and *progressivity* stand for in the syntactic system advocated in this dissertation. Recall that a progressive verbal predicate is a predicate that contains an outer aspect projection in its phrase structure. Unlike progressivity, imperfectivity does not entail the presence of this projection, given that we have imperfective stative verbs which are simply VPs. What unites progressivity and imperfectivity, however, is the fact that verbs containing an outer aspect projection are interpreted as progressive in English and imperfective in Russian. In other words, given our analysis, the terms *progressive* and *imperfective* describe the same kind of phrase structure, namely that containing an outer aspect projection, only when it comes to dynamic predicates. So, technically, our analysis equates progressivity with imperfectivity of dynamic verbs.

There are two main objections that are often raised in the literature against such treatment of Slavic imperfectivity. One has to do with the default reading of progressive and imperfective and the other with delimited readings of Russian imperfectives. Let us look at each of these objections in turn.

5.2.1. Habitual reading of imperfectives

Apart from encoding unbounded single events, Russian dynamic imperfectives, both primary and secondary, can encode unbounded sequences of events. This is a multiple event/ habitual/iterative reading of imperfectives:

(25) a. Petja často čitaet eti knigi. ***unbounded***
Petja often reads-PI these books.
'Petja often reads these books.'

b. Petja často **pere**čity**va**et eti knigi. ***unbounded***, ***telic***
Petja often rereads-SI these books.
'Petja often rereads these books.'

This observation demonstrates that Russian imperfective dynamic verbs similarly to English progressives can encode either an episodic unbounded event or an unbounded sequence of events. But while Russian speakers regularly use imperfective verbal forms to encode habitual events, English speakers rarely use progressive forms to do so. In fact, it is a single event reading that is a default reading of English progressives. To express habituality, English speakers standardly use the simple (tense) verbal forms, e.g., *walks*, *reads*. The fact that in English, habituality is usually expressed by a form different from progressive is not really surprising. By using simple tense forms, English speakers simply avoid unnecessary ambiguity. Crucially, this preference does not point to the inability of English progressive verbs to encode habituality/iterativity.

Russian, unlike English, has no other verbal forms, apart from imperfectives, that can receive a habitual interpretation, given that in Russian non-stative dynamic events acquire future rather than habitual reading, e.g., *pročitaet* "will read/*reads". Russian speakers have no choice but use imperfectives to express habituality. They, however, employ other possibilities to disambiguate between the single/episodic event and habitual/iterative readings. Thus, Russian speakers prefer to assign a single event reading only to those past and future imperfectives, which occur with an overt phrase that encodes the RT, e.g., *when*-phrase, point-time adverbials, etc, or in the context that prompts a single event reading.[198] In the present tense, where RT = ST, Russian dynamic imperfectives standardly receive an ongoing event interpretation. Only when they occur with habitual adverbials or in the context that prompts a habitual reading are they

[198] Rassudova (1977) notes that for IMP to convey the single-event/episodic reading in past, it requires Adverbial or other contextual support (p. 93-94:: 141). Smith (1991) states this observation in terms of anchoring. Thus, in order to receive a single event interpretation, IMP has to be anchored to some time adverbial in past or future, while it can directly be anchored to ST in present. Note that the function of the adverbial or other contextual information in past and future is to specify the RT – a time coordinate crucial for episodic reading of IMPs (RT $\subset$ ET).

interpreted as encoding habitual events.[199] Importantly, the fact that past imperfectives receive a habitual reading as a default and that present imperfectives receive an ongoing event reading as a default does not mean that Russian imperfectives cannot express both meanings in past or present.

In conclusion, the reason why English progressives and Russian dynamic imperfectives have different default readings comes from speakers' attempt to avoid ambiguity, rather than from differences in their syntactic structure. The existence of a default, thus, does not argue against the analysis that views both progressives and dynamic imperfectives as corresponding to a structure that contains an outer aspect projection. Let us turn to other evidence that can be viewed as contradiction to our analysis.

5.2.2. Delimited reading of imperfectives

Another objection that is often raised in the literature against an analysis that equates Russian imperfectives with English progressives has to do with delimited readings of imperfectives (Forsyth 1970, Filip 1999, 2005):[200]

[199] In the case of Russian aspectual triples, only the PI and not the SI can encodes an unbounded single event. This differentiation in function, once again, strives from a strong preference to avoid ambiguity, as otherwise, both primary and secondary IMPs would mean the same thing, e.g., *pit'* "to drink-PI" – ***vypit'*** "to drink-PERF completely" – ***vypivat'*** "to drink-SI habitually".

[200] Based on the observation that Slavic IMPs can be used in delimited situations (Forsyth 1970), Filip (2000) postulates that imperfective, but not progressive permits for an eventuality to be a part of itself. She, thus, formally distinguishes the semantics of imperfective operator from that of progressive operator. While she assumes that both of these operators relate eventualities to their parts, she analyses the notion of 'part' in terms of the weak ordering relation '≤' for imperfective, but in terms of the strict ordering relation '<p' for progressive. Thus, for Filip progressive, but not imperfective explicitly excludes the final part of the denoted event.

There are two problems with Filip's analysis. First, it mistakenly assumes that only Slavic IMPs can occur in delimited situations. But as we have seen in section 3.2.2, English progressive can also apper in situations delimited in the real world. Moreover, once we assume that IMP contains the final part of the event (i.e., its transition part), we need to explain why, similarly to progressive, it fails to entail completion – the generalization that holds true of all IMPs, except for some of the exceptional cases that we will discuss in this section. I believe that it is not a coincidence that 'unusual' readings of IMP are heavily context dependent, as pointed out by Forsyth (1970). It looks like it is not syntax or semantics of IMPs but rather some pragmatic conditions that license these exceptional readings. Indeed, this is the conclusion that we will reach at the end of this section. If true, it suggests that we do not need to incorporate the fact that Russian IMP has a wider range of use than English progressive into the semantico-syntactic analyses of these verbs.

(26) a. Petja čital/**pere**čity**va**l statju odin čas.
Petja read-PI/reread-SI article for one hour.
'Petja was reading/was rereading an/the article for one hour.'

b. Maša zakončila pisat'/**pod**pisy**va**t' pis'ma.
Masha finished write-PI/sign-SI letters.
'Masha finished writing/signing (the) letters.'

c. Na prošloj nedele Olja čitala/**pere**čity**va**la "Annu Kareninu".
Last week Olja read-PI/reread-SI "Anna Karenina".
'Last week, Olja was reading/was rereading "Anna Karenina".'

In (26a) the adverbial *odin čas* "one hour" delimits the event of *reading/rereading*. That is to say that the event ends as soon as the period of one hour is over. Importantly, although the event appearing with durative adverbial is perceived as delimited in time, it does not entail completion, suggesting that the imperfective predicate encoding this event is not telic.

Because imperfective verbs, as opposed to perfective ones, lack any change-of-state relative to which the event's boundaries can be evaluated, they can appear as complements of phase verbs (26b). From the perspective of aspect, phase verbs supply the event they take as a complement with a change-of-state that marks either beginning or final boundary of the event, e.g., *start* vs. *finish*. With a change-of-state that marks the final boundary as in (26b), the event is interpreted as delimited in time. Unlike IMPs, PERF verbs are incompatible with phase verbs, as they already contain a change-of-state in their structure. This behaviour of perfectives can be explained by Tenny's (1994) Single Delimiting Constraint that prohibits an event from being delimited more than once. Note that it is this distinction between PERF and IMP that is used in the Complement perfectivity diagnostic presented in section 4.1.

Turning now to the example in (26c), note that the most salient interpretation of this sentence is the one where at the time of speech Olja is no longer reading/rereading "Anna Karenina". In other words, the past tense form of IMP verbs is standardly interpreted as terminative. Hence, in Russian, just as in English, the ST can put an upper bound on event's duration, thus, delimiting the event in time. This is especially true if the event has occurred remotely in the past (relatively to the ST). Importantly, this 'final boundary' is not in any way encoded by the verbal predicates in (26c). Thus, if we move

RT close enough to ST, e.g., if in (26c) instead of *last week* we use *5 minutes ago*, the interpretation suddenly changes to unlimited. For if Olja was reading/rereading "Anna Karenina" 5 minutes before the ST, it is most likely that she still is reading it at the ST.

Apart from cases of delimitedness by durative adverbials, phase verbs and the past tense, Russian IMPs can be delimited by the perfect operator:[201]

(27) a. Ja ne pojdu v kafe. Ja (uže) **po**ela/ela. (from Borik 2002)
I not will-go to cafeteria. I (already) ate-PERF/ate-IMP.
'I won't go to the cafeteria.'
PERF: 'I have (already) eaten.'
IMP: 'I have (already) been eating.'

b. Vy **pro**čitali/čitali "Annu Kareninu"? (from Forsyth 1970)
You read-PERF/read-IMP "Anna Karenina"?
Pročital, *no tak i ne dočital.
Read-PERF *but did not finish it.
Čital, no tak i ne dočital.
Read-IMP but did not finish it.
PERF: 'Have you read "Anna Karenina"? – I have *but haven't managed to finish it.'
IMP: 'Have you been reading "Anna Karenina"? – I have, but haven't managed to finish it.'

c. Vy polučili/polučali mojo pis'mo?
You received-PERF/received-IMP my letter?
PERF: 'Have you received my letter?'
IMP: Lit: 'Have you been engaged in the event of receiving my letter?'[202]

d. Vy kupili/pokupali apel'siny?
You bought-PERF/bought-IMP oranges?
PERF: 'Have you bought oranges?'
IMP: Lit: 'Have you been buying oranges?'

In the sentences above, IMPs describe terminated unbounded events, similarly to English perfect progressives. Specifically, they emphasize the existence of a past event that occurred prior to the speech time (ST), without referring to event's boundaries – this is so-called 'existential' perfect reading of IMPs. Only when PERF is used, is the perfect

[201] It is a well acknowledged fact that, although Russian lacks perfect morphology, it has temporal perfect reading (Paslawska & von Stechow 2003).
[202] Note that in the case of IMP in (27c), the achievements *polučit'* "to receive" is coerced into a dynamic event.

interpreted as entailing completion. For instance, the sentence in (27b) asserts that the listener read the entire book prior to the ST only if PERF is used. In contrast, IMP is compatible with the reading whereby the listener has been engaged in the process of reading "Anna Karenina", but has not succeeded in reading the entire book. Similarly, the PERF in (27c) and (27d) signals that the target state of *the letter being received* or *oranges being bought* was reached. The IMP, on the other hand, simply inquires about whether or not the listener has been engages in the event of *receiving the letter* or *buying oranges* prior to the ST. Because the speaker only seeks information about the process part of the event, he/she can use an IMP verb.[203]

To recap, whenever Russian speakers intend to emphasize an event's occurrence (*konstatirovat' fakt dejstvija*) without referring to its completion or result, they can use imperfective (Forsyth 1970). This *factual* reading of IMP is very similar, in its essence, to perfect progressive reading of English verbs.

The data in (27a) and (27b) demonstrate that in Russian both PERF and IMP forms can appear in perfect, just as in English both simple and progressive forms can. But while in English perfect is marked with auxiliary *have*, Russian perfect is not morphologically marked. The lack of an overt perfect marker led some researchers to assume that in examples such as (27), it is the imperfective that encodes event's delimitedness. I, however, believe that in the case of the perfect reading of IMPs, the delimitedness is encoded by the perfect operator rather than by the imperfective one. The IMP is simply used to describe the internal stages of such perfect event. The challenge, of course, is to determine when exactly are we dealing with the perfect reading of IMPs, given that Russian does not mark this aspect morphologically.

Let us see more examples of IMP verbs used in delimited context:

(28) (Adapted from Forsyth 1970 & Schoorlemmer 1995)

a. Kto kupil/pokupal eti bilety?
   Who bought-PERF/bought-IMP these tickets.
   PERF: 'Who bought these tickets?'
   IMP: Lit: 'Who has been engaged in the event of buying these tickets?'

[203] I, thus, disagree with Schoorlemmer (1995), who postulates that the IMP sentences in (27) trigger a telic presupposition. My intuition is that these sentences encode non-telic events. In fact, because they do not encode transitions, we can come up with various scenarios whereby these sentences would describe uncompleted situations, as demonstrated in (27b).

b. Kto xlebal iz moej čaški (i vsjo vyxlebal), kto sidel na mojem stule
Who ate-IMP from my cup (and ate-PERF it all), who sat-IMP on my chair
(i slamal ego), kto ložilsja na moju postel' (i smjal ejo)?
(and broke-PERF it), who lied down-IMP on my bed (and wrinkled-PERF it)?
IMP: 'Who's been eating my porridge (and ate it all up), who's been sitting on my chair (and broken it), who's been laying down on my bed (and wrinkled it)?'

c. Gde vy kupili/pokupali eti apel'siny.
Where you bought-PERF/bought-IMP these oranges.
PERF: 'Where did you buy these oranges?'
IMP: 'Where have you been buying these oranges?'

d. Kto **na**pisal/pisal "Vojnu i Mir"?
Who wrote-PERF/wrote-IMP "War and Peace"?
PERF: 'Who wrote "War and Peace"?'
IMP: 'Who has been writing "War and Peace"?'
Lit: 'Who has been engaged in the process of writing "War and Peace"?'

All of the sentences in (28) carry what Schoorlemmer (1995) calls a *telic presupposition*. Peculiarly, these sentences can only be uttered in the situation where the resultant state that 'triggers' a telic presupposition is known to all interlocutors, either from the context or the world knowledge. Thus, (28a) is used in the situation where there are the tickets that have been bought. Likewise, (28b), taken from the famous children story "Goldilocks and the Three Bears", is uttered in the situation where all members of the bear family witness that the little bear's porridge has been eaten, his chair has been broken and his bed has been wrinkled. (28c) can only be used if the listener indeed has bought the oranges. And, finally, (28d) can be used only in the situation when all interlocutors share the information that "War and Peace" is a novel that has been written (completely). Since the result of events encoded by the sentences in (28) is a part of common ground, the presupposition is that the telic event that led to this result has occurred prior to the ST. By asking the question, the speaker wants to fill in details about this presupposition. In particular, in (28a), (28b) and (28c), he/she wants to know who exactly carried out the presupposed telic event, while in (28d) he/she wants to know the location where the presupposed event was carried out. The choice between PERF and IMP forms depends on speaker's desire to focus on the entire presupposed event or only on its process part. Thus, unlike PERF, IMP does not inquire about the transition subpart

of the presupposed event, only about its process subpart. This is why in (28a), (28b), (28c) and (28d), IMP is interpreted as simply inquiring about the engagement in the event. As noticed by Schoorlemmer (1995) "it looks as though imperfective aspect is used here in order not to make reference to telicity at all" (p.114). This inability to refer to the transition part of the presupposed telic event is not surprising, given that syntactically IMP encodes unbounded/atelic events.

The last, and by far the most interesting, case of what has been claimed to be IMPs encoding telic events are IMPs that encode 'two-way' actions or, more precisely, an action that is perceived as, first, being completed and, then, 'reversed back':

(29) a. Kto **ot**kryl/**ot**kryval okno? (adapted from Forsyth 1970)
Who opened-PERF/opened-SI window?
PERF: 'Who opened the window?' → The window is open (at the time of speech (ST)).
IMP: 'Who has been opening the window?'
IMPLICATES: Someone has opened the window at least once before ST. & The window is no longer open (at ST).

b. On vzjal/bral etu knigu v biblioteke.
He took-PERF/took-IMP this book in the library.
PERF: 'He took this book out of the library.' → He has the book (at ST).
IMP: 'He has been taking this book out of the library.'
IMPLICATES: He has taken this book out of the library at least once before ST. & He no longer has the book (at ST).

c. K nam **pri**exala/**pri**ezžala Marina.[204]
To us arrive-PERF/arrive-SI Marina.
PERF: 'Marina came to (visit) us.' → She is still with us (at ST).
IMP: 'Marina has been coming to (visit) us.'
IMPLICATES: Marina has visited us at least once before ST. & Marina has left already (by ST).

What makes these examples particularly interesting is that here even IMP forms implicate completion. Thus, each of these sentences, whether with perfective or imperfective, describes an event that is interpreted as having been completed, at least

[204] Interestingly, the sentences in (29) only contain SIs or suppletive imperfective forms. Whether this is simply a coincidence or whether 'two-way' action constructions do not tolerate PIs is a question that I leave to future research.

once, prior to the ST. The difference between PERF and IMP is that only with PERF does the resultant state of this 'completed' event is still valid at the ST.

It is often claimed that in sentences as in (29), not only PERF but also IMP can entail completion (Forsyth 1970). If true, this would mean that Russian IMP, just as PERF, may have a telic-like structure, i.e., a structure containing an Asp_QP and lacking an outer AspP, assuming that the entailment relation reflects the event's syntactic structure. However, as I will argue next, in no examples in (29), is IMP alone responsible for sentence's delimited interpretation, suggesting that IMP by itself never entails completion?[205]

Just as in the sentences in (28), the sentence in (29a) can only be uttered in the situation where the window-opening event is presupposed to have taken place (Schoorlemmer 1995). If this presupposition is based on direct evidence, such as *the opened window*, then the PERF is used to question the details of this presupposition. If, however, it is based on indirect evidence such as *colder temperature in the room as compared to some previously attested temperature*, then the IMP is used to question the details of the presupposition. Hence, just as in (28), in (29a) the IMP does not encode or entail delimitedness. The delimitedness comes from the presupposed telic event.

While the delimitedness of the event encoded by the IMP predicate in (29a) comes from the telic presupposition, it is not immediately clear where the delimitedness of the events encoded by the IMP predicate in (29b) and (29c) comes from, given that these sentences do not carry a telic presupposition. The question that we need to answer at this point is whether it is the IMP alone that is responsible for the completed interpretation of (29b) and (29c), as claimed by Forsyth (1970) and Filip (2005). As we will see shortly the answer to this question is NO.

As demonstrated by (26c), in Russian an event encoded by a past IMP generally receives a delimited (in time) interpretation, unless its continuation is specified by an overt phrase, or not enough time has elapsed for the event to be considered terminated. The question is why is it so? It seems like, following conversational conventions, the

[205] Once again, it is a well-known fact that IMP does not entail completion, even if its base is telic, as in the case of SIs. This 'unexpected' lack of entailment has been even named after imperfectives: the ***Imperfective paradox***. It seems strange to me to assume that with reversible verbs this paradox is no longer valid, provided that reversible verbs have the same syntactic structure as non-reversible ones.

listener assumes that if the speaker indeed wanted to describe an unlimited event, he/she would use the overt phrase that specifies event's continuation or simply use the present tense form of IMP. By doing so, the listener disambiguates between two possible readings of past IMPs, a delimited one and unlimited one. It is, hence, pragmatic conventions together with world knowledge that force the listener to interpret past IMPs as delimited in time.

What is especially interesting about the examples in (29b) and (29c) is that here the events encoded by the IMP sentences are interpreted not only as being terminated by the ST but also as being completed (at least once) by the ST. Perhaps, this is due to the fact that the IMP verbs in (29b) and (29c) are unbounded versions of achievement verbs "to take" and "to arrive". That is to say that they have the reading of an unbounded sequence of instantaneous events, i.e., an iterative reading. But once we make such a sequence delimited in time, i.e., once we put an upper bound on such a sequence, it will automatically imply that the given instantaneous event has happened at least once, otherwise we would not be talking about the sequence of events. Thus, the termination of the repeated sequence of *taking a/the book out of the library* event implies that the book was taken out of the library at least once prior to the termination point.

Another peculiarity related to the examples (29b) and (29c) is that in addition to implicating completion, the events encoded by the IMP sentences also implicate that the target state obtained as a result of this completion has been 'annulled' by the ST. This implicature is based on the pragmatic principles that try to disambiguate between the two delimited readings of (29b) and (29c), one with PERF and one with IMP.

The important observation that we shall discuss next is that assuming that the event was completed prior to the ST does not in itself guarantee that its target state would still be valid at the ST. Hence, the fact that Russian speakers interpret past IMPs as implicating completion, says nothing about the status of the target state that has been obtained as a result of this completion. This is especially true of reversible verbs – the verbs that are used in the 'two-way' action construction. The target state of these verbs can, in principle, be 'reversed' back to its previous state by the ST.[206] For instance, if

[206] As pointed out by Forsyth (1970), the 'annulled' reading of IMPs is only possible with reversible verbs: *otkryvat'* "open-IMP", *zakryvat'* "close-IMP", *otvorjat'* "open-IMP", *vkljuchat'* "switch on-IMP", *vykljuchat'* "switch off-IMP", *snimat'* "take off-IMP", *davat'* "give-IMP", *vstavat'* "get up-IMP",

from hearing (29b) one assumes that the subject's *taking of the book out of the library* was successful (at least once prior to the ST), this assumption does not tell him/her anything about whether the subject still has the book at ST. In principle, two scenarios are compatible with this assumption: at ST, the subject may still have the book (if he has not returned it to the library by the ST) or the book may be back in the library (if the subject has returned it).

As a default, the listener hearing the IMP sentence in (29b) will assume the latter scenario is true, unless he/she knows or assumes (based on his/her world knowledge) that the subject still has the book. For instance, imagine the situation where John sees Amanda coming out of the library and asks her what she was doing there. From Amanda's reply: *Ja tam brala odnu knigu po matematike* [207] "I was taking out a math book there", John would most likely conclude that Amanda has the mentioned book in her possession. Yet, in the scenario where the world situation does not give rise to such an assumption, Russian speakers would interpret the IMP sentence (29b) as implicating that, although *the book* was out of the library at a certain point prior to the ST, it is back in the library at the ST. In other words, they would not entertain the alternative possibility, whereby the subject still has the book at the ST. The question is why do they discard this legitimate possibility? This is because the listener, in an attempt to resolve the ambiguity, assumes that if the speaker wanted to call his/her attention to the validity of the resultant state, he/she would use the PERF form – the form that not only entails completion but exhibits what Schoorlemmer (1995) terms the *Perfect Effect*, i.e., it guarantees validity of the target state at the RT.[208] Consequently, when presented with the past IMP form of reversible verbs, the listener assumes that the speaker conveys an 'annulled' result, unless this assumption is at odds with the context.

It is, thus, two conversational implicatures, namely, one according to which the event encoded by the past IMP has reached its completion at least once (prior to ST) and the other according to which the target state that resulted from this completion(s) does not

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ostanavlivat'sja "stop-IMP"*, brat'* "take-IMP" etc. This reading is particularly common with the verbs of motion, where two-way motion implies "a return to the position occupied before the whole event took place" (Forsyth 1970, p. 80). The fact that only reversible verbs implicate 'annulled' reading is not coincidental, given that only the target state of reversible verbs can be 'annulled'.

[207] Some speakers find this slow motion reading of "take" a bit odd. Note that not all achievements allow for this reading.

[208] Note that in our examples RT = ST.

continue into the present, that are responsible for the 'annulled' reading of reversible past IMPs in (29b) and (29c). The morpho-syntactic structure of IMP is in no way responsible for this reading. The existence of this 'atypical' reading of IMP, hence, does not constitute evidence against my analysis of IMP verbs, which precludes these verbs from structurally encoding telic events.

What I find especially intriguing is that, apart from the achievements "receive" and "take", the rest of IMPs that we have seen in (27)-(29) are translated into English using the perfect progressive forms. Perhaps, these exceptional-like uses of IMP are nothing but examples of IMP being delimited by the perfect aspect. If so, then the domain of application of the imperfective is in no way more extensive than that of the progressive, given that both IMP and progressive can appear in perfect. Unfortunately, it is very difficult to determine whether this is so, given that, unlike English, Russian does not mark perfect morphologically.

Be that as it may, what is important for our analysis is that, in none of the apparent counterexamples that we have seen in this section, is the IMP by itself responsible for the event's delimited interpretation. Apart from semantic-like shifters such as durative adverbials, phase verbs, the past tense and the perfect aspect, there are pragmatic factors such as telic presupposition and conversational implicatures that play a crucial role in allowing Russian IMPs to be compatible with delimited or even completed situations. The data in (27)-(29) do not constitute evidence against our claim according to which IMPs do not encode telic events, i.e., they are not simply Asp_QP, and, consequently, never entail completion. When occurring in delimited situations, they standardly describe these events' internal stages, excluding the transition part, which is supplied by some other, syntactico-semantic or pragmatic, means.

To sum up, in this section we have argued that, as far as syntax is concerned, Russian dynamic imperfectives have the same syntactic structure as English progressives. If anything, it is pragmatics that seems to be responsible for the wider range of use of imperfective, as opposed to that of progressive.

5.3. Concluding remarks: Russian imperfectives

In this chapter we have looked at Russian verbs that are compatible with the present tense or, as they have been termed, imperfective verbs. As we have seen, Russian has stative and dynamic imperfectives. While stative imperfectives are structurally VPs, dynamic imperfectives are verbs that contain an outer AspP in their structure. This means that as far as Russian dynamic verbs are concerned, *imperfectivity* entails the presence of an outer aspect projection, just as *perfectivity* entails the presence of an inner aspect projection (and absence of an outer AspP).

As we have established, it is the presence of an outer AspP that structurally equates Russian dynamic IMPs with English progressives. For it is the outer AspP that is responsible for the unbounded reading of Russian dynamic IMPs as well as English progressives, both of which can be underlyingly telic or atelic, or receive a single event or multiple events unbounded interpretation.

We have also considered Filip's (2000) objections to an analysis that equates Russian IMPs with English progressives. As a response to her objections, we have first pointed out that the analysis advocated in this dissertation only postulates a structural correspondence between Russian dynamic IMPs and English progressives. Second, we have shown that Filip's observation that Russian imperfectives have a different default reading from English progressives is due to the differences in strategies that Russian and English speakers use to disambiguate between the two interpretations of IMP and progressive, i.e., between a single event and a multiple reading of IMP and progressive. We, thus, have concluded that this observation should not count against the analysis that views Russian dynamic IMPs as structural equivalents of English progressives.

Next, we have established that the data that has been cited in the literature as contradicting our analysis do not constitute legitimate counterexamples. A close inspection of these data has revealed that despite the fact that Russian IMPs can appear in delimited situations they never entail a delimited interpretation. Just as expected under our analysis, they standardly describe the internal stages of delimited situations, excluding the transition part, which is supplied by some other, syntactico-semantic or pragmatic, means. In this respect, Russian IMPs look very much like English perfect progressives.

Despite their structural similarities, Russian imperfectives are not identical with English progressives. Thus, while in English the outer Asp^{o} of both unbounded activities and unbounded accomplishments contains an overt suffix *-ing*, in Russian only the outer Asp^{o} of unbounded accomplishments contains an overt suffix *-va*. In contrast, Russian unbounded activities contain a phonologically null morpheme in their outer Asp^{o}.[209]

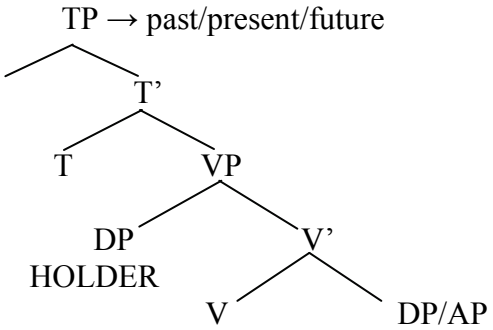
5.4. Concluding remarks: Russian aspectual system

To conclude our investigation of Russian aspectual system, I will list syntactic structures related to aspect that one finds in Russian. I will also specify the interpretation of each of these structures, as well as the elements within a given structure.

5.4.1. Non-dynamic verbal predicates

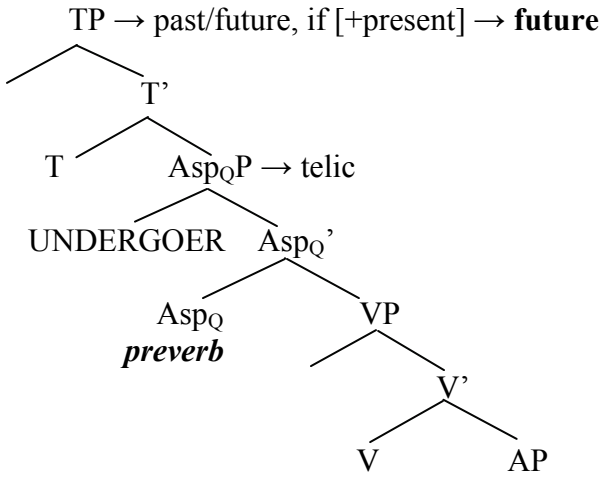
Russian, similarly to English, has two types of non-dynamic predicates: states and achievements. The main difference between these two predicates is that while states are structurally VPs, achievements are Asp$_{Q}$Ps. What unites them is that they both lack a *v*P projection and, consequently, never merge under an outer AspP. In other words, when it comes to states and achievements, the structure that encodes these predicates is usually merged directly under a TP, as shown in (30) and (31), except for cases of coercion:

(30) STATES or (NON-DYNAMIC ATELIC EVENTS): *ljubit'* "to love", *znat'* "to know", *verit'* "to believe".



[209] In addition, *-va*, unlike *-ing*, generally attaches to accomplishments that have acquired a new meaning in the process of prefixation. The knowledge of which verbs allows for the *-va* prefixation seems to be memory based. I, thus, do not consider this distinction between *-va* and *-ing* to be syntactic. As far as syntax is concerned, *-va*, just as *-ing*, can attach to any dynamic verb. The non-attested forms will be ruled out based on speaker's encyclopedic knowledge.

(31) ACHIEVEMENTS or (NON-DYNAMIC) TELIC/PERFECTIVE EVENTS: ***po****ljubit'* "come to love"*,* ***u****znat'* "recognize/come to know", ***ras****serdit'sja* "become angry".



As in English, the subject of Russian states in the [Spec, VP] is simply interpreted as the Holder of the state, while the subject of Russian achievements in the [Spec, Asp$_Q$P] is perceived as the Undergoer argument, or argument undergoing the change-of-state. Russian non-dynamic predicates differ from their English counterparts in one important way, however. Whereas English achievements usually acquire their [quantity] feature non-compositionally (from the lexicon), Russian achievements usually do so compositionally (from the preverb).

The homogeneity of Russian states is responsible for their atelicity and imperfectivity. Thus, on one hand, being homogenous they do not encode any change-of-state and, on the other, they are compatible with the present tense. Russian achievements also display a double nature. Not only are they telic but also perfective. This means that apart from encoding a change of state, they are incompatible with the present tense, and, hence, must undergo a semantic shift into the future. Importantly, this double nature of Russian states and achievements is not unique. English states and achievements also display opposite telicity values and behave differently with respect to the present tense. This is not surprising, given that they have the same structure as Russian non-dynamic predicates. Yet, while talking about English, one does not employ the descriptive terms *imperfective* and *perfective* to distinguish verbal predicates compatible with the present tense from those that are not.

5.4.2. Dynamic verbal predicates

Just like English, Russian has two types of dynamic predicates: activities and accomplishments. Although both of these predicates contain the *v*P in their structure – a projection that encodes a process subevent, only accomplishments contain the Asp_QP – a projection that encodes a transition subevent.

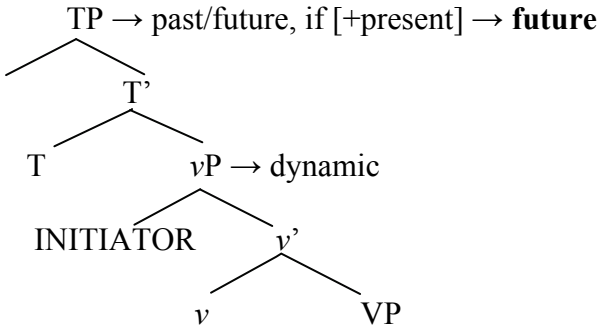
What distinguishes Russian dynamic verbs from English ones is that in Russian only accomplishments may appear with or without an outer aspect projection. According to the analysis that I propose in this dissertation, Russian activities always contain an outer aspect projection in their syntactic structure.

5.4.2.1. Aspectually simple forms of Russian dynamic verbs

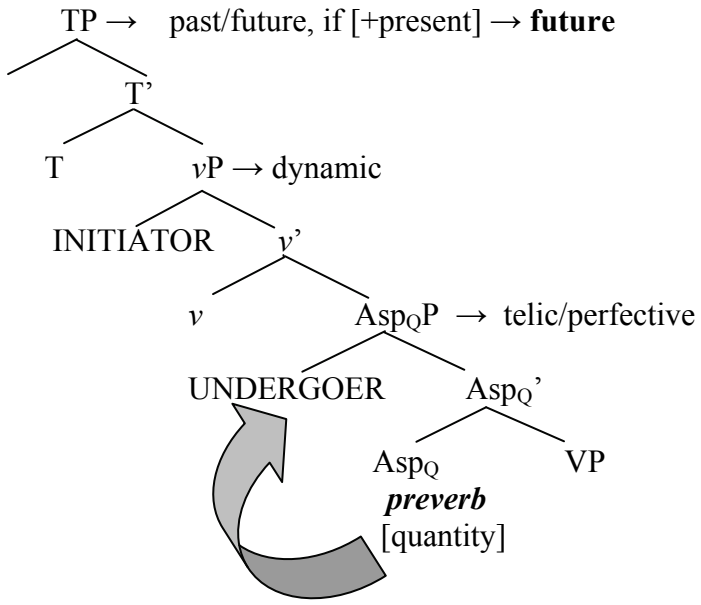
As mentioned before, in Russian only accomplishments can have the structure that lacks an outer aspect projection, as shown in (32) and (33). The verbs having this structure have been traditionally labelled as perfective (dynamic) verbs.

(32) (SIMPLE) ACTIVITIES or DYNAMIC (ATELIC) EVENTS:

NOT ATTESTED



(33) (SIMPLE) ACCOMPLISHMENTS or PERFECTIVE (DYNAMIC) VERBS[210] or (BOUNDED) DYNAMIC TELIC EVENTS: ***pere**čitat'* "reread-PERF", ***na**risovat'* "paint-PERF", ***vy**pit'* "drink-PERF".



Just like English accomplishments, Russian accomplishments are events consisting of the process and transition subevents. Yet, unlike English accomplishments, Russian accomplishments standardly acquire their [quantity] feature directly from an aspectual morpheme (usually prefix) that merges onto the Asp_Q^o. Nonetheless, in Russian too, there is a spec-head agreement between the aspectual feature of the verbal predicate in Asp_Q^o and the aspectual feature of the nominal predicate in [Spec, Asp_QP]. The direction of this relation is reversed, however. While in English AGREE applies downwards, copying the [quantity] feature of the nominal predicate in [Spec, Asp_QP] onto the verbal predicate in Asp_Q^o, in Russian it applies upwards, in that it is the verbal predicate in Asp_Q^o that transmits the [quantity] feature (acquired from the preverb) to the nominal predicate in [Spec, Asp_QP].

Similarly to English simple accomplishments, Russian accomplishments cannot receive a present tense ongoing interpretation and, consequently, must undergo a

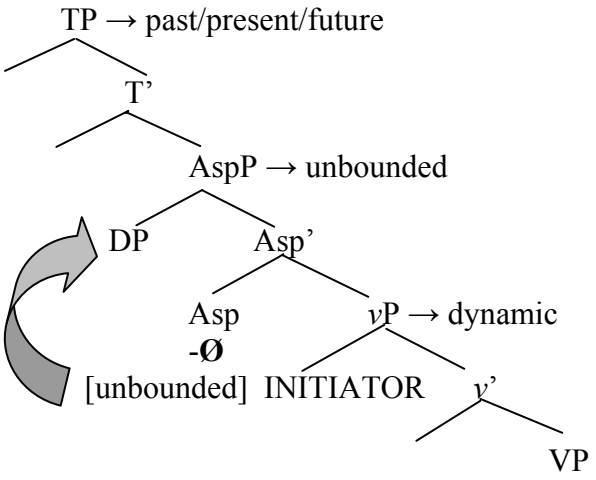
[210] Given that achievements never have imperfective correspondents with the same meaning, accomplishments are the only perfective verbs that are traditionally treated as forming aspectual pairs. Thus, in Russian almost every accomplishment has a correspondent imperfective form (primary or secondary), i.e., a form that has the same root and shares the same basic meaning with a given accomplishment.

semantic shift. Yet, in Russian the shift is not into the habitual, as in English, but into the future. Since the present tense form of Russian accomplishments receives a future tense interpretation, these verbs block formation of an analytic future.

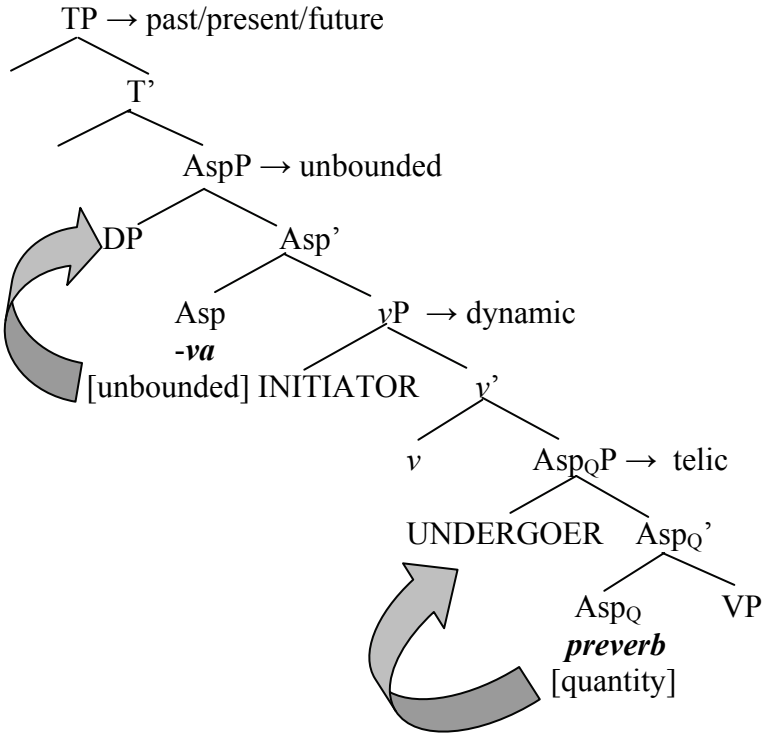
5.4.2.2. Aspectually complex forms of Russian dynamic verbs

In Russian, like in English, both activities and accomplishments can appear with an outer aspect projection, as shown in (34) and (35):

(34) PRIMARY (DYNAMIC) IMPERFECTIVES or UNBOUNDED DYNAMIC (ATELIC) EVENTS or UNBOUNDED ACTIVITIES: *igra-t'* "to play", *čita-t'* "to read", *pisa-t'* "to write".



(35) SECONDARY (DYNAMIC) IMPERFECTIVES or UNBOUNDED DYNAMIC TELIC EVENTS or UNBOUNDED ACCOMPLISHMENTS: ***vy-****igry-****va-****t'*** "to win", ***pere-****čity-****va-****t'*** "to reread".



Dynamic verbs containing only an outer aspect projection are known in Slavic linguistics as *primary imperfectives* (PIs), while verbs containing both an inner and outer aspect projection are known as *secondary imperfectives* (SIs). Despite this structural difference both PIs and SIs receive a partial/unbounded interpretation, failing to entail completion.

In this thesis I assume, that when it comes to transitive IMP verbs, both PIs and SIs encode unbounded single events, whenever their internal argument moves into [Spec, AspP]. In this case the internal argument too is interpreted as having a partial/unbounded reading. Hence, the structural distinction between PIs and SIs mentioned above is lost under the episodic reading of IMPs. Only when IMPs acquire an iterative reading is this difference observable. Thus, under this reading only SIs can encode unbounded series of telic/completed events. This is because, unlike SIs, PIs lack an Asp_QP – a projection that is crucial for a telic interpretation. Recall that the same thing happens in English. Here

too, the difference in telicity value of progressive activities and accomplishments correlates with the difference in the event's interpretation only in iterative.

Unlike English, Russian has two distinct morphemes associated with the [unbounded] feature: *-va* and -Ø. Only outer aspect of complex accomplishments can be marked by *-va*. Because activities take the phonologically null morpheme, their (outer) aspectual marking is invisible. This contrast with English, where outer aspect of both accomplishments and activities is always marked by the phonologically overt morpheme *-ing*.[211]

Overall, Russian has two types of non-dynamic predicates, i.e., states and achievements, as well as two types of dynamic predicates, i.e., activities and accomplishments. Only achievements and accomplishments, being telic, contain an Asp_QP in their structure. The present tense forms of these *perfective* predicates, undergoing a semantic shift, receive a future tense interpretation. Moreover, only activities and accomplishments, being dynamic, can merge under an outer AspP, producing their *imperfective* forms. Because Russian activities never have a simple structure, they, unlike Russian accomplishments, are always imperfective.

Having looked at the aspectual system of both English and Russian let us turn to the question of whether English speakers acquiring Russian as L2 can attain native-like competence in the domain of aspect.

[211] Russian *-va* used to attach to both activities and accomplishments, just as English *-ing* does. For whatever reason, the forms of activities inflected with *-va* have disappeared from Russian quite rapidly. Thus, we can still find many activities inflected with *-va* in the literary works and dictionaries written at the beginning of the 20th century. This is not so in modern Russian. Activities with *-va* are unacceptable in standard Russian. Only in colloquial Russian – a variety that is usually less restrictive – do we find remnants of these verbs. But even in colloquial Russian activities with *-va* are limited to a small number of verbs as well as limited in their function, i.e., they can only be used to describe past habitual events. All these factors together with the fact that the same speakers who allow for certain activities to be inflected with *-va* also allow for these activities to be inflected with the -Ø morpheme suggest that even in colloquial Russian the -Ø form of activity verbs are on their way to replace the archaic *-va* form.

Part II: L2 Acquisition of Russian aspect

Chapter 6: Morpho-syntactic components that English learners must acquire

In this chapter, I will briefly compare the English and Russian aspectual systems. I will point out what exactly English speakers learning Russian as L2 must acquire in order to attain native-like competence in the domain of Russian aspect as well as explaining why only certain aspectual properties will be investigated in the two experiments reported in this thesis.

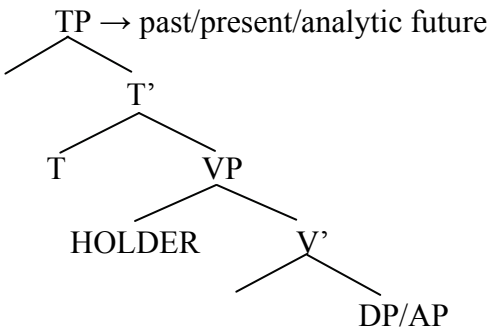
6.1. States

Our analysis of stative verbs indicates that English and Russian states have essentially identical syntactic structure. In particular, they are encoded by the VP projection. The nominal predicate in [Spec, VP] is interpreted as the Holder of the state, while the DP in the complement position (if present) further describes the state (Ramchand 2008).

(1) STATES or (NON-DYNAMIC) (ATELIC) VERBAL PREDICATES

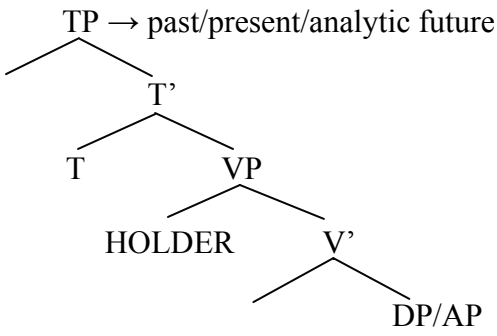
a. *English*

e.g., *know*, *love*, *believe*, *live*



b. *Russian*: (non-dynamic) IMPs

e.g., *znat'* "know", *ljubit'* "love"



Because Russian states can appear in the present (and analytic future) they have been labelled *imperfectives*. Although English states lack such a label, they are, nonetheless, just like Russian states, compatible with the present tense (and form an analytic future).

Given the identity of the structures in (1), English L2 learners of Russian should experience no problem in acquiring Russian states. All they have to do is to assign the structure available in L1 to the L2. In other words, as far as Russian stative verbs are concerned, we don't expect to observe anything significant in respect to their L2 acquisition. Hence, in this dissertation I will not investigate the L2 acquisition of Russian states.

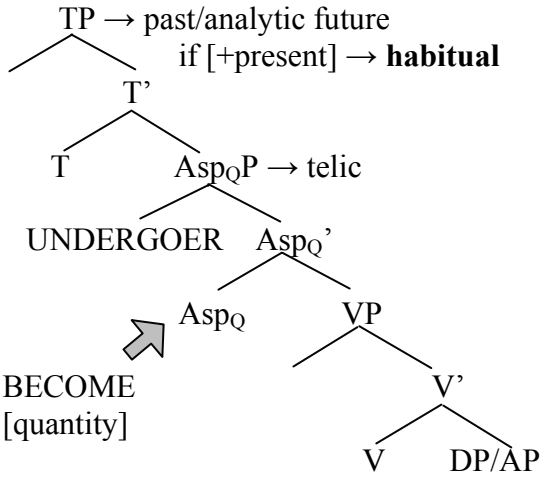
6.2. Achievements

In both Russian and English, achievements are verbal predicates that encode near-instantaneous changes-of-state. Structurally, they are VPs embedded under an Asp_QP, as shown in (2):

(2) ACHIEVEMENTS or (NON-DYNAMIC) TELIC VERBAL PREDICATES

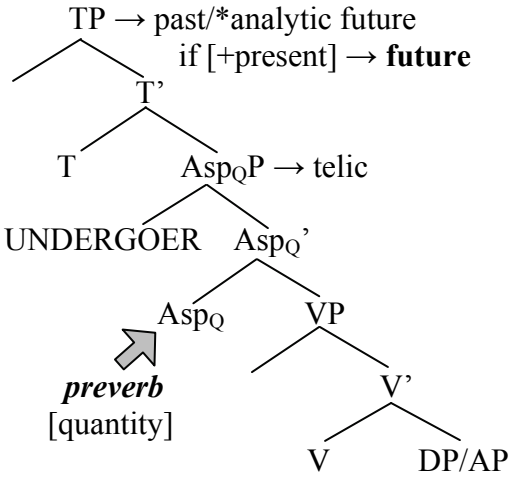
a. *English*

e.g., *find, recognize*, *die, forget*



b. *Russian*: (non-dynamic) PERFs

e.g., ***po**ljubit'* "come to love",
***u**znat'* "recognize/come to know"



Encoding near-instantaneous events, achievements resist taking the aspectual morpheme that would render them unbounded in time, i.e., *-ing* in English and *-va* in Russian. Only when they are coerced into accomplishments can they be inflected with

this morpheme. This behaviour indicates that achievements do not contain an outer AspP, merging directly under a TP. This is true of both English and Russian achievements.

Another similarity that English and Russian achievements share is that their argument in [Spec, Asp_QP] is interpreted as the argument that undergoes the transition encoded by the verbal predicate, i.e., it is the *affected argument* (Tenny 1987), *Undergoer* (Ramchand 2008) or *subject-of-quantity* (Borer 2005).

Note that the fact that Russian but not English achievements are termed *perfectives* does not make them in any way special. As we have established in previous chapters, this term simply means that they are telic events that are incompatible with the present tense. But so are English achievements.

Nonetheless, there are several properties that make Russian achievements distinct from English ones. First, while English achievements acquire their [quantity] feature from the lexicon, Russian achievements generally do so from an aspectual morpheme, usually a prefix, that merges directly onto the $Asp_Q°$. Second, while in the present tense both English and Russian achievements undergo semantic shift, to save an otherwise doomed derivation, the shift is into the habitual in English and into the future in Russian. Third, Russian, but not English blocks formation of the *analytic* future, i.e., the future formed with the auxiliary *byt'* + infinitival form, given that it already possesses a form that can express future, i.e., the shifted (into the future) present tense form of perfective predicates traditionally known as the *synthetic* future form.

To acquire Russian achievements then, English L2ers must acquire the fact that (1) Russian achievements are morpho-syntactically complex in that they contain an aspectual morpheme that endows the achievement with the [quantity] feature; (2) Russian present tense achievements shift into the future and not into the habitual; (3) unlike English, Russian prohibits the formation of analytic future of achievements.

An additional problem with Russian achievements is that they rarely bear any transparent semantic relation to the root they are derived from, i.e., adding a preverb normally results in an idiosyncratic interpretation. Given that at the onset of acquisition, irregular forms are usually acquired as chunks (Schmidt 1983, Myles, Hooper & Mitchell 1998), L2ers will most probably analyse Russian achievements as being morphologically simple. They will assume, accordingly, that Russian achievements, just like English ones,

contain the [quantity] feature in their lexicon. Later in the acquisition process, the acquisition of Russian accomplishments (which often contain the same preverbs as Russian achievements) may prompt them to switch to the correct analysis of achievements. Unfortunately, it is virtually impossible to detect at what moment L2ers might switch from one system to another. The only way to do so would be to ask them to explicitly dissect Russian achievements into morphemes – a task that lacks any subtlety, disclosing the objective of the investigation. For this reason, in this dissertation I only partially examine the L2 acquisition of Russian achievements. Specifically, only when investigating the L2 acquisition of the Russian shifting operation and the analytic future formation will achievements be used along with accomplishments.[212]

6.3. Activities

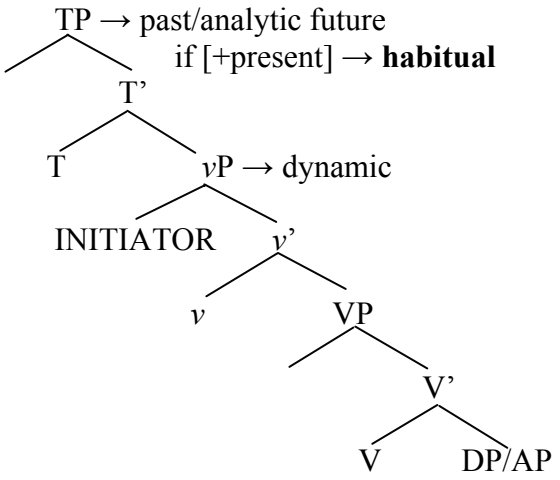
Activities are verbal predicates that encode a process event. In principle, activities can merge directly under TP or via outer AspP. Nonetheless, as has been argued in previous chapters, syntactically simple activities are only attested in English (3), while syntactically complex activities are attested in both English and Russian (4). In other words, Russian lacks the structure in (3b):-[213]

[212] Also, in this thesis, I will not investigate the L2 acquisition of Russian inceptive-like and delimitative-like achievements. L2 acquisition of these unique Slavic forms requires extensive research. Readers are referred to Kozlowska-Macgregor (2002) for a study that looks at acquisition of Polish delimitative verbs.
[213] To see why these forms are not existent in Russian readers are referred to section 5.1.2.2.

(3) SIMPLE ACTIVITIES or DYNAMIC (ATELIC) VERBAL PREDICATES

a. ***English***: <u>simple (tense) activities</u>

e.g., *run*, *play games*, *fix furniture*



b. ***Russian***

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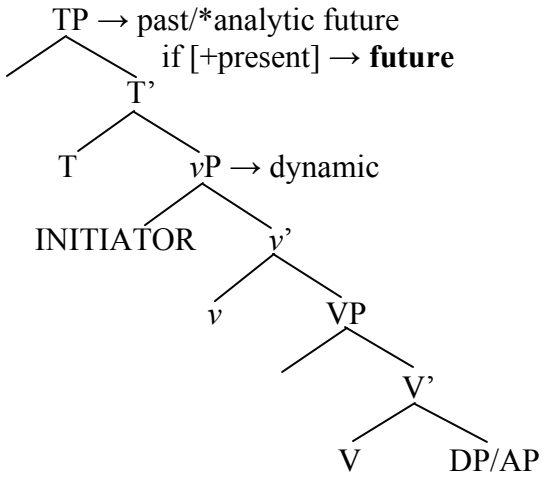
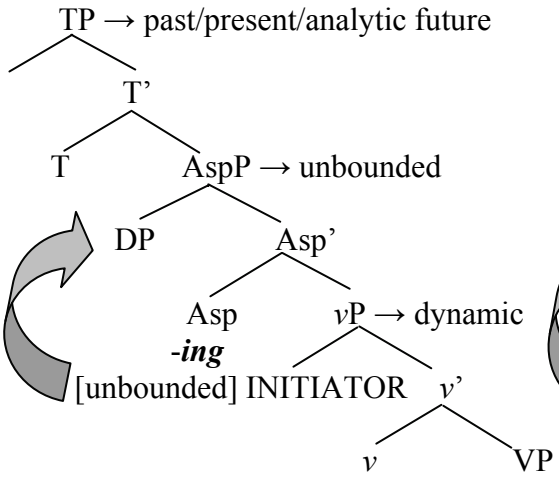


(4) COMPLEX ACTIVITIES or UNBOUNDED DYNAMIC (ATELIC) VERBAL PREDICATES

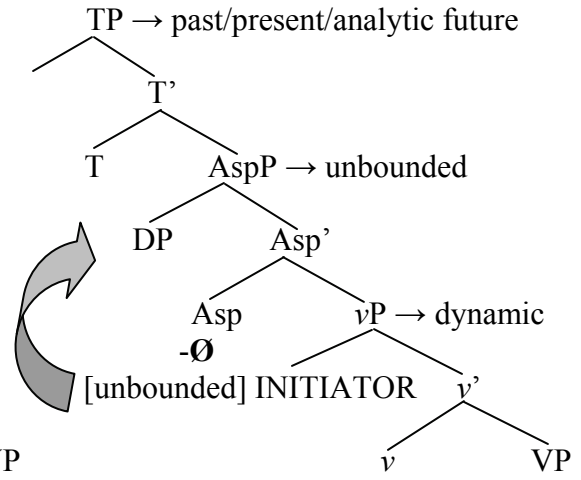
a. *English*: <u>progressive activities</u>

e.g., *runn**ing***, *play**ing** games*



b. *Russian*: <u>primary IMPs</u>

e.g., *čitat'* "read", *pisat'* "write"



L2ers who have attained native-like competence of Russian aspect should never assign the structure in (3b) to Russian activities, disallowing them from undergoing a

semantic shift. This means that L2ers who have acquired the Russian activities (along with the Russian shifting operation) should never interpret these verbs as having a future tense reading. To express future, they must use the analytic future form.

Learners who inaccurately assign the structure in (3b) to Russian activities are predicted to mistakenly judge Russian activities as being incompatible with an ongoing event reading, given that simple *v*Ps are incompatible with the present tense in both English and Russian. In addition, the L2ers who have acquired the Russian shifting operation but still assign (3b) to activity verbs are predicted to inaccurately judge Russian activities as being compatible with a future tense reading, given that in Russian simple *v*Ps undergoes a semantic shift into the future. Unfortunately, because complex activities can receive a habitual reading, we cannot tell whether L2ers who still use the English shifting operation (into habitual) assign the structure (3b) or (4b) to Russian activity verbs.

Apart from blocking the structure in (3b), English speakers acquiring Russian as L2, must acquire the fact that in Russian the outer aspect projection of activity verbs is licensed exclusively by the Ø-morpheme that carries the [unbounded] feature. Consequently, they should disallow -*va* from attaching to (atelic) activity verbs.

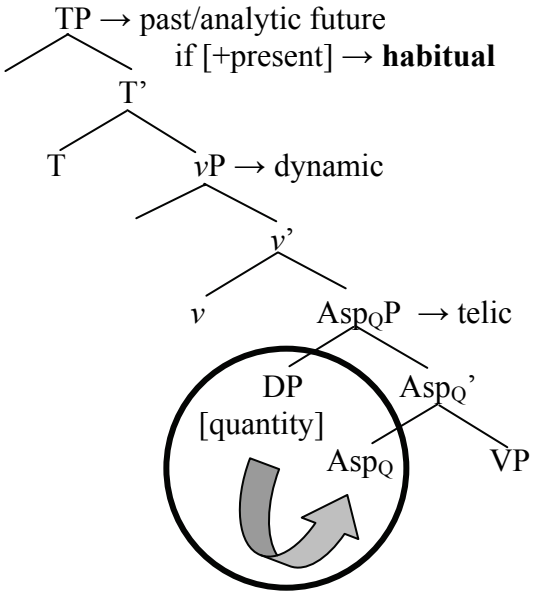
6.4. Accomplishments

From the perspective of their event structure, accomplishments are the most complex predicates, containing both a process subevent, syntactically encoded by a *v*P, and a transition subevent, syntactically encoded by an Asp_QP. In Russian, just as in English, accomplishments can either merge directly under TP or through an AspP. Reflecting their aspectual structure, we will refer to the former syntactic configurations as *simple accomplishments* and to the latter ones as *complex accomplishments*, as shown in (5) and (6):

(5) SIMPLE ACCOMPLISHMENTS or DYNAMIC TELIC VERBAL PREDICATES

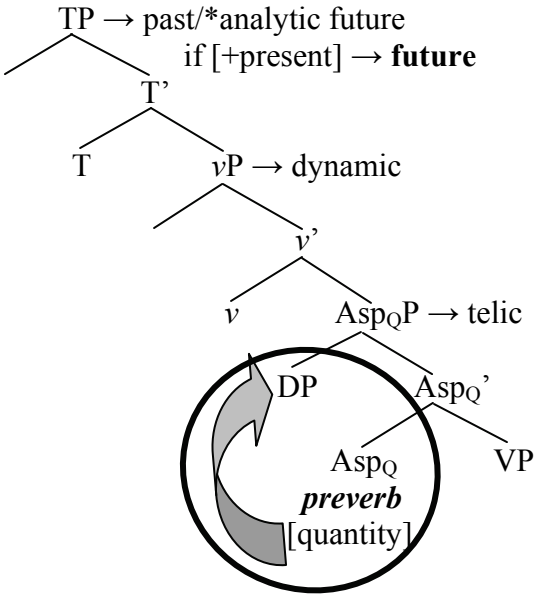
a. *English*: simple ACCOMPLISHMENTS

e.g., *run a mile*, *read the books*, *eat the apple*, *drink 3 cups of coffee*



b. *Russian*: (dynamic) PERFECTIVES

e.g., ***pere****čitat'* "reread", ***vy****pit'* "drink", ***na****pisat'* "write"



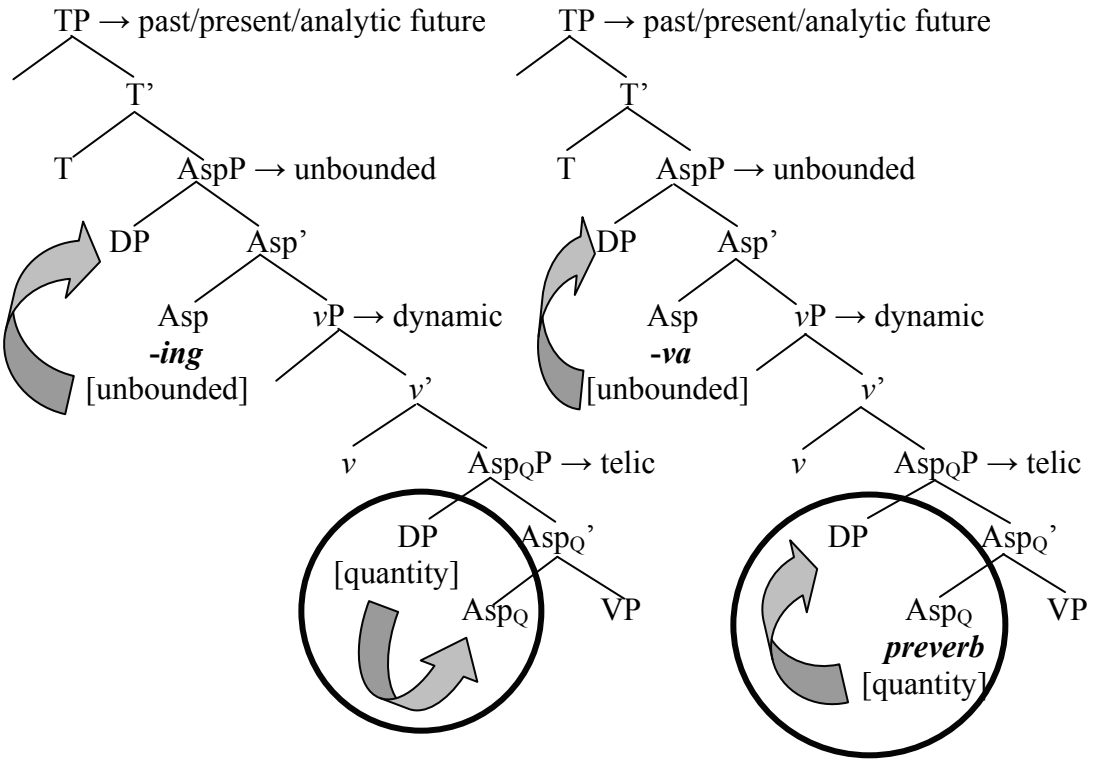
(6) COMPLEX ACCOMPLISHMENTS or UNBOUNDED DYNAMIC TELIC VERBAL PREDICATES

a. *English*: progressive ACCOMs

e.g., *runn**ing** a mile*, *eat**ing** the apple*
*read**ing** the books*

b. *Russian*: secondary IMPERFECTIVES

e.g., ***pere**čityva**t'*** "reread", ***vy**piva**t'*** "drink", ***vy**igryva**t'*** "win"



As we can see from (6), in both English and Russian the outer aspect projection is licensed by an aspectual suffix: *-ing* and *-va* respectively. Recall that this aspectual suffix performs the same functions in both languages in that it (1) renders the accomplishment compatible with the present, (2) makes the telic accomplishment unbounded in time and (3) can endow the Undergoer argument with a partial reading, making it unbounded in space. Given this functional identity between *-ing* and *-va*, all English L2ers must do, to acquire the outer aspect of Russian accomplishments, is to recognise that *-va* is an aspectual suffix associated with the [unbounded] feature, just as *-ing* is.

The main difference between Russian and English accomplishments is in the domain of inner aspect, however. Thus, while both Russian and English accomplishments acquire their telicity compositionally, within the Asp_QP, they do so in a different manner.

English accomplishments acquire their [quantity] feature indirectly from a quantity DP in [Spec, Asp_QP], through spec-head agreement as in (5a) and (6a). Russian accomplishments, on the other hand, acquire their [quantity] feature directly, from an aspectual morpheme that merges onto Asp_Q^o. Russian accomplishments, then, transmit this feature to the DP in [Spec, Asp_QP], via spec-head agreement as in (5b) and (6b). From the perspective of language acquisition, the two modes of telicity assignment can be viewed as a parameter that, following Slabakova (2001), I shall call the *Telicity* parameter.[214] In order to acquire Russian accomplishments, English speakers must reset their parameter setting from indirect to direct, assuming that at the initial stages of acquisition they will use their L1 telicity assigning mechanism.

In order to acquire Russian simple accomplishments, it is not enough for English speakers to reset the Telicity parameter. They must also acquire the difference in shifting operation. Instead of shifting the interpretation of the present form of Russian simple accomplishments into the habitual, they should shift it into the future. In addition, they must block the formation of the analytic future of simple accomplishments, i.e., disallow the auxiliary *byt'* + an infinitival form of a simple accomplishment.

To sum up, in order to attain native-like competence in the morpho-syntactic components and, to some extent, semantic components of Russian aspect, English L2ers must (1) reset the Telicity parameter from indirect to direct, (2) acquire the fact that in Russian, the shifting operation is into the future; (3) acquire the fact that syntactically simple non-stative verbs (without an outer AspP) do not form an analytic future; (4) acquire the fact that activities never have the structure in (3b); (5) acquire the fact that the aspectual suffix *-va* only attaches to telic (dynamic) stems.[215] Before we look at the experimental data that reveal whether L2ers are able to meet these objectives, let us take a closer look at the Telicity parameter.

[214] Note that although Slabakova's Telicity parameter is similar to the one proposed here it is not identical with it. We will discuss the differences between her parameter and the one proposed here in the next section.

[215] They must also learn that *-va* does not attach to all dynamic telic stems, but mainly to those that have acquired an idiosyncratic meaning in the process of prefixation. Crucially, the latter requirement is mediated by the speaker's memory-driven encyclopaedic knowledge rather than by his/her syntactic knowledge (see Chapter 5). Since in this dissertation I am only concerned with L2 acquisition of syntactic knowledge, I will not test whether L2ers acquire this requirement.

6.5. Telicity parameter

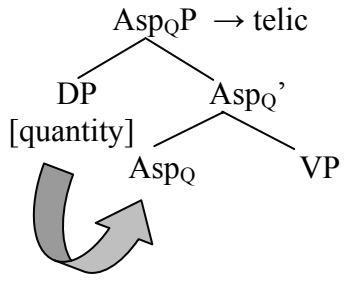
An important postulate that we have adapted in this dissertation is that for a verbal predicate to acquire a telic interpretation the following universal syntactic conditions must be satisfied: (i) the *v*P-internal *Quantity phrase* (Asp_QP) must be merged and (ii) the verbal predicate in Asp_Q^o must acquire the [quantity] value. Otherwise, the merger of Asp_QP and, consequently, a telic reading, is not warranted.

As we have determined from the comparative analysis of English and Russian, the set of elements that can license the merger of an Asp_QP seems to be universal. In particular, quantity DPs, verbal 'bits' such as prefixes, suffixes or particles, as well as path-goal PPs (in the case of motion Vs) are among elements that can trigger the merger of an Asp_QP.

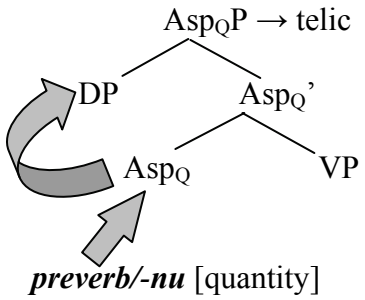
Despite this universality which suggests that languages compute their telicity within the Asp_QP cross-linguistically, each language chooses between two empirically attested telicity-assigning mechanisms: direct or indirect (Borer 2005). This being said, note that the spec-head agreement relation holds within an Asp_QP in both English and Russian, as has been argued in the theoretical part of this dissertation. The direction of this relation is, however, reversed in English and Russian: downwards in English and upwards in Russian, as shown in (7).

(7) TELICITY PARAMETER

a. *English*



b. *Russian*:



Because English verbs acquire their telic value indirectly from the Undergoer argument, the aspectual value of this argument plays a crucial role in telic composition. Only *v*Ps that contain a quantity Undergoer argument such as a singular count noun, a

definite plural noun or an overtly quantificational noun receive a telic interpretation (Verkuyl 1993):

(8) a. 10 minutes ago, John ran a mile *and he is still running that mile now.[216] ***telic***
b. 10 minutes ago, Mary ate the apples *and she is still eating them now. ***telic***
c. 10 minutes ago, Susan drank 3 beers *and she is still drinking them now. ***telic***

(9) a. 10 minutes ago, John ran and he is still running now. ***atelic***
b. 10 minutes ago, Mary ate apples and she is still eating apples now. ***atelic***
c. 10 minutes ago, Susan drank wine and she is still drinking wine now. ***atelic***

In the sentences in (8), the singular count noun *a mile*, the definite plural noun *the apples* and the overtly quantificational noun *three beers* are all quantities. Being quantities they trigger the merger of the Asp_QP as well as transmit their [quantity] feature to the verbal predicate that moves into the Asp_Q^o, making the verbal predicate quantity/telic. In contrast, in the sentences in (9), the Asp_QP is not licensed, given that these sentences lack a quantity Undergoer argument. While the sentence in (9a) lacks an internal argument altogether, the sentences in (9b) and (9c) contain a non-quantity internal argument: the bare plural *apples* and the mass noun *wine* respectively. As a result, the verbal predicates in the examples in (9) receive a non-quantity/atelic reading.

Unlike the telicity status of English verbal predicates, the telicity status of Russian verbal predicates does not depend on the aspectual value of the Undergoer argument. This is because Russian, unlike English, employs direct telicity assignment. In Russian, it is the morpho-syntactic structure of the verbal predicate that plays a crucial role in telic composition. Specifically, with the exception of a few lexically telic bare verbs, only verbs that contain an aspectual morpheme that can properly license an Asp_QP are interpreted as telic. In particular, verbs that contain a preverb or *-nu* (and lack *-va*), with

[216] In order to determine the telicity status of the events containing a quantity DP, as opposed to those that contain a non-quantity DP or no DP at all, I use the Complement diagnostic, which as has been shown in section 2.2.3.2.1 is a legitimate diagnostic for completive events – a type of event tested here. I deliberately did not use the Adverbial modification diagnostic, given that in English *for X-time* type adverbials can appear with some telic events, giving rise to a 'process' reading of a telic event, e.g., *Susan ate the sandwiches for ½ an hour/in ½ an hour*. For a detailed discussion of this phenomenon consult section 2.2.3.2.1.

few exceptions, are telic, as shown in (10). In contrast, lexically underspecified (for aspect) verbs that lack a preverb or *-nu* as in (11a) and (11b) are atelic: [217]

(10) a. Petja **po**činil mebel' *½ časa/za ½ časa. ***telic***
Petja fixed-PERF furniture *for ½ an hour/in ½ an hour.
'Petja fixed the furniture *for ½ an hour/in ½ an hour.'

b. Maša **pro**čitala gazety *½ časa/za ½ časa. ***telic***
Masha read-PERF newspapers *for ½ an hour/in ½ an hour.
'Masha read the newspapers *for ½ an hour/in ½ an hour.'

(11) a. Maša risovala portret ½ časa/*za ½ časa. ***unbounded, atelic***
Masha painted-PI portrait for ½ an hour/*in ½ an hour.
'Masha was painting a/the portrait for ½ an hour /*in ½ an hour.'

b. Petja čital eti knigi ½ časa/*za ½ časa. ***unbounded, atelic***
Petja read-PI these books for ½ an hour/*in ½ an hour.
'Petja was reading these books for ½ an hour/*in ½ an hour.'

c. Katja pisala tri statji 15 minut/*za 15 minut. ***unbounded, atelic***
Katja wrote-SI three articles for 15 minutes/*in 15 minutes.
'Katja was rewriting three articles for 15 minutes/*in 15minutes.'

The Russian verbs in (10) are telic, as they contain a preverb (and lack *-va*). In contrast, the verbs in (11), lacking a legitimate range assigner, e.g., a preverb, are atelic. Importantly, the verbs in (10) are telic despite the fact that they appear with non-quantity internal arguments. Neither the mass noun *mebel'* "furniture" nor the bare plural *gazety* "newspapers" in any way influence the telicity status of the verbal predicate. As I have shown in section 4.3.1.3-iii in Russian the quantity DPs by themselves cannot properly license an Asp_QP. This is why the sentences in (11) containing a prefixless verb are atelic, despite the fact that they contain a quantity internal argument. In particular, the singular count noun *portret* "portrait" in (11a), the demonstrative noun *eti knigi* "these books" in (11b) and the overtly quantificational noun *tri statji* "three articles" in (11c) do not make the verb telic, revealing that Russian lacks indirect telicity assignment.

[217] Unfortunately, the Adverbial modification test in (11) or any other telicity test for that matter does not distinguish between unbounded and atelic readings. Nonetheless, as I have argued in chapter 5, Russian bare IMPs (i.e., PIs), lacking an Asp_QP, are not only unbounded but also underlyingly atelic.

To recap, in Russian a quantity DP does not make verbal predicates telic. For a telic interpretation to arise, the presence of a preverb or *-nu* is essential, indicating that Russian uses direct range assignment. Only in English – a language that uses indirect range assignment – does the quantity Undergoer yield a telic *v*P. This pattern is due to parametric variation in telicity-assigning mechanism presented in (7), with Russian using direct range assignment and English indirect.

To explain the difference between Slavic and English telicity-assigning mechanisms, Slabakova (2001) proposes a Telicity parameter similar to the one in (7). While Slabakova's parameter accounts for the data in (8)-(11), there are number of differences between her parameter and the one proposed in this dissertation. Following Borer (2005), I assume that both Russian and English compute their telicity within an Asp_QP, while Slabakova, following De Swart and Verkuyl (1999), does not share this view. For her, only English verbal predicates calculate their telicity within this projection. Instead of assuming that Slavic verbal predicates have a different mode of telicity assignment, she postulates that the telicity of Slavic verbal predicates is computed in a different projection from the inner AspP, namely in a projection that merges right above the inner AspP. To reflect the fact that this projection is limited to perfective verbs, she calls it the PerfP (perfective P). According to Slabakova, we obtain a telic reading, only when the head of PerfP is filled with a preverb.[218]

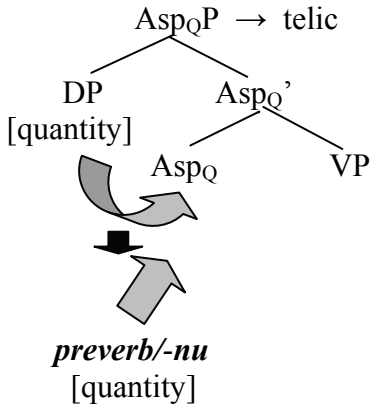
The second major difference between the Slabakova's Telicity parameter and the one presented in here is that, while Slabakova has an inner aspect projection in both telic and atelic predicates, the former being associated with the [+telic] feature and the latter with the [-telic] feature, I, following Borer (2005), assume that Asp_QP is only present in telic predicates.[219] This implies that the Telicity parameter proposed in this dissertation is only relevant to telic but not atelic predicates, in contrast to Slabakova's proposal.

[218] Recall that in the analysis advocated in this dissertation it is the presence of a well-formed Asp_QP rather than a preverb that is held responsible for a telic interpretation of Russian verbal predicates. While preverbs, along with the suffix *-nu*, are indeed elements that assign range to the Russian verbal predicates, we also allow for the lexical BECOME to properly license the merger of an Asp_QP (see section 4.3.1.3).

[219] Note that once we postulate that the Asp_QP is merged only under special circumstances, we must account for those circumstances. This is why, along with Borer (2005), we postulated a condition that regulates the merger of an Asp_QP (see section 2.3). Hence, disposing of the inner aspect projection in atelic verbs forces us, on one hand, to postulate an extra condition. On the other hand, it allows us to avoid employing the [-telic] feature – a feature for which there seems to be no empirical evidence.

To conclude this section, note that to acquire the Russian verbal system, English speakers must reset the telicity parameter from indirect to direct, as shown in (12).[220]

(12) RESETTING OF TELICITY PARAMETER: from indirect to direct



L2ers who have successfully reset the Telicity parameter from English-like to Russian-like are predicted to pay close attention to the verb's morphological make up, ignoring the aspectual value of the internal argument. To test whether this prediction is true I conducted Experiment 1, the details of which I present in next chapter.

[220] Having particles in English that can trigger the merger of an Asp$_Q$P, but fail to properly license this projection, instead of helping L2ers to reset the Telicity parameter, may, in fact, interfere with such resetting, at least at the initial stages of acquisition.

Chapter 7: L2 Acquisition of Russian perfective verbs

As has been outlined in the previous chapter, there are three components that English learners of Russian must acquire in order to attain native-like competence with Russian perfective verbs, i.e., achievements and simple accomplishments. First, to properly assign telic status to Russian perfective verbs, they must reset the Telicity parameter from indirect to direct. Second, recognizing that Russian PERF verbs are incompatible with the present tense, they must learn that these verbs undergo a semantic shift into the future and not into the habitual. And finally, they must block the formation of the analytic future with PERF verbs, as these verbs express future using present tense forms.

Note that the acquisition of these three properties is interrelated only to a certain extent. Specifically, the acquisition of the Russian shifting operation as well as of the analytic future formation is only partially dependent on the acquisition of the Russian telicity-assigning mechanism. In order to assign a correct structure to Russian verbs that undergo shifting, L2ers must first reset the Telicity parameter, given that in Russian only telic verbs are shifted. Yet, successful resetting of this parameter does not guarantee an immediate success in acquiring the shifting operation. It is possible for L2ers who have reset the Telicity parameter to use the English shifting operation, interpreting Russian PERF verbs habitually. Moreover, while we expect L2ers to realize that Russian disallows analytic future formation with perfective verbs only after they learn that the present tense forms of these verbs receive a shifted future tense interpretation, the actual blocking of analytic future may be delayed. This is because in order to block analytic future, L2ers must establish how exactly Russian interrelates a coerced (synthetic) future with a non-coerced (analytic) future, i.e., that these two forms are mutually exclusive. Overall, we do not predict that the Russian telicity-assigning mechanism, shifting operation and analytic future formation will emerge at the same time in the process of acquisition.

Let us consider acquisition of each of these properties in turn.

7.1. Acquisition of the Russian telicity-assigning mechanism

In this section, I report on an experiment that tested the L2 acquisition of the Russian telicity-assigning mechanism by English native speakers.

7.1.1. Experiment 1

The purpose of this experiment was to determine whether English speakers acquiring Russian as L2 can successfully switch the Telicity Parameter from their L1 setting to the Russian setting. The results suggest that L2ers experience no problem in switching the Telicity parameter.

7.1.1.1. Participants

51 subjects participated in the experiment: 41 L2 learners and 10 speakers of Russian as controls. 15 of the L2 subjects and 2 native speakers were recruited through McGill University's classified ads, and the others through personal contacts. Only participants who judged their Russian to be high intermediate, advanced or near-native were accepted for the study.

All of the L2 participants were native English speakers from North America, mainly Canada, ranging in age from 20 to 40. They all had their first exposure to Russian in their late teens or early 20s. 35 of the L2 participants learned Russian in a North American University, in a formal classroom setting. 6 of the L2ers acquired Russian in Russia, in a mainly naturalistic setting. Except for 3 subjects, L2ers who learned Russian in a formal setting had spent some time in Russia, ranging from 2 weeks to 5 years. In fact, 9 subjects were living in Russia at the time of testing. The majority of L2 participants who took the test in Montreal (n = 14) had some knowledge of French, ranging from basic to advanced. None of the L2ers were exposed to any Slavic language in their childhood.

As for the native Russian subjects, 8 of them live in Russia and 2 in Ukraine. The subjects from Ukraine do not speak Ukrainian.

The L2 subjects were classified into three proficiency groups, based on their performance on the Cloze test that I have designed, using text extracted from the novel of

S. Lukjanenko "Nočnoj dozor".[221] Table 1 lists the results of the Cloze test, as well as information on the participants' age, the age of their first exposure to Russian and the amount of time they have spent in Russia.

Table 1 Group results on Cloze test

		Native (n = 10)	Advanced (n = 5)	High Intermediate (n = 27)	Low Intermediate (n = 9)
Score on Cloze test (out of 54)	Mean	51.3	47.2	36	24.22
	SD	1.16	3.27	2.45	2.82
	Rage	50-53	44-52	33-40	22-31
Age	Mean	32.8	30.5	27.67	25.11
	SD	10.16	10.21	6.48	7.85
	Rage	21-50	21-40	20-40	20-40
Age of first exposure	Mean	-	19	20.22	19.56
	SD	-	2.74	2.20	1.88
	Rage	-	16-21	17-22	17-23
Time spent in Russia (in months)	Mean	-	48.6	6.74	8.39
	SD	-	49.5	12.21	19.52
	Rage	-	0-120	0-60	0-60

As can be seen from Table 1, 5 of the 41 L2 participants were classified as advanced[222], 27 as high intermediate and 9 as low intermediate.

7.1.1.2. Stimuli

40 Russian sentences containing non-stative verbs in their past tense form were tested. Half of these sentences contained bare IMP verbs and the other half contained the corresponding prefixed PERF verbs. Each sentence consisted of only 3 elements: the subject, the verb and the direct object, as shown in (1).[223] There were 20 distractors.[224]

[221] The full version of the Cloze test can be found in Appendix A.

[222] In fact, two of the L2 participants were near-native speakers of Russian. To increase the number of participants within the Advanced group, with the purpose of obtaining more reliable results, I took liberty of combining near-native and advanced proficiency speakers together into the Advanced group. This move did not compromise the results, given that the performance of advanced speakers on all the tests reported in this dissertation minimally diverged from the near-native speakers.

[223] Consult Appendix B for the full set of stimuli.

[224] The distractors were used to equate the number of expected negative replies with the number of expected positive replies.

(1) a. Petja činil stul.
'Petja fixed-IMP a/the chair.'

b. Petja **po**činil stul.
'Petja fixed-PERF a/the chair.'

As for PERF verbs, only accomplishments were used. Achievements were excluded, since it is impossible to establish in what manner L2ers compute their telicity: compositionally (as in Russian) or lexically (as in English).[225] Only the compositional mode involves a telicity-assigning mechanism. The acquisition of Russian accomplishments, on the other hand, clearly involves such a mechanism, given that in both English and Russian these verbs always acquire their telicity compositionally.

The list of verbs tested in Experiment 1 is shown in (2):

(2) *gladit'/**po**gladit'* "to iron IMP/PERF",
*krasit'/**po**krasit'* "to paint IMP/PERF",
*pisat'/**na**pisat'* "to write IMP/PERF",
*risovat'/**na**risovat'* "to draw/paint IMP/PERF",
*žarit'/**po**žarit'* "to fry IMP/PERF",
*delat'/**s**delat'* "to do/make IMP/PERF",
*gotovit'/**pri**gotovit'* "to prepare IMP/PERF",
*pit'/**vy**pit'* "to drink IMP/PERF",
*rezat'/**na**rezat'* "to cut IMP/PERF",
*varit'/**s**varit'* "to cook IMP/PERF",
*čistit'/**po**čistit'* "to clean IMP/PERF",
*čitat'/**pro**čitat'* "to read IMP/PERF",
*šit'/**s**šit'* "to saw IMP/PERF",
*stirat'/**po**stirat'* "to do laundry IMP/PERF",
*stroit'/**po**stroit'* "to build IMP/PERF",
*činit'/**po**činit'* "to fix IMP/PERF",
*est'/**s**est'* "to eat IMP/PERF",
*kurit'/**vy**kurit'* "to smoke IMP/PERF",
*peč'/**is**peč* "to bake IMP/PERF"
*vjazat'/**s**vjazat'* "to knit IMP/PERF".

Note that the difference in meaning between the bare IMP verbs and their corresponding prefixed PERF verbs is purely aspectual. Thus, the preverbs used in this experiment only add final boundaries to the events encoded by the roots, without altering

[225] Readers are referred to section 6.1 for a more detailed discussion of this issue.

basic meaning. As a result, the only difference between the PERF and IMP listed above is that the former but not the latter entail completion.

To test whether the L2 participants still used the English telicity-assigning mechanism, the stimuli contained four different variants of internal arguments. 10 of the stimuli with IMP verbs as well as 10 with PERF verbs contained non-quantity DPs, 5 of which were mass nouns and 5 bare plurals, as in (3):

(3) Non-quantity stimuli Ns

Mass Ns		Bare plural Ns	
domašnee zadanie	"homework"	*rubaški*	"shirts"
m'aso	"meat"	*steny*	"walls"
borš'	"borscht"	*kartiny*	"paintings"
vino	"wine"	*pis'ma*	"letters"
ris	"rice"	*kotlety*	"burgers"

Another 20 sentences, 10 IMP and 10 PERF, contained quantity DPs, 5 of which were singular count nouns and 5 overtly marked quantity nouns (i.e., referential nouns or nouns modified by the cardinals), as in (4):

(4) Quantity stimuli Ns

Singular count Ns		Overtly marked quantity Ns	
stul	"chair"	*svoi zimnie sapogi*	"self winter shoes"
pirog	"pie"	*svoi jubki*	"self skirts"
buterbrod	"sandwich"	*dva platja*	"two dresses"
sigara	"cigar"	*doma N^{o}8 i N^{o}10 na ulice Gor'kogo*	"the buildings #8 and #10 on Gorky street"
šarf	"scarf"	*rasskazy Stivena Kinga «Nona» i «Tuman»*	"the novels by Stephen King "Nona" and "The Mist""

7.1.1.3. Task

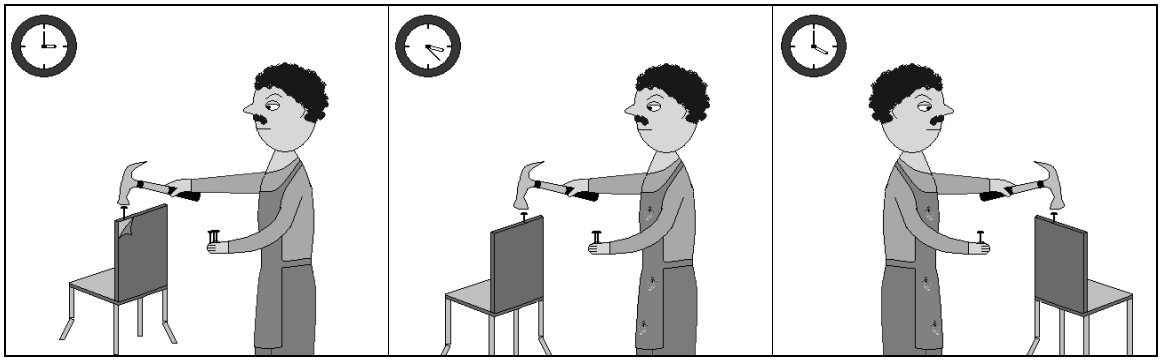
A variant of a Truth value judgment task was used. Participants were asked to indicate whether a stimulus sentence matched an event depicted by a sequence of three pictures.

Each of 40 sentences appeared twice during the test, once with pictures showing an uncompleted event and once with pictures showing a completed event. An uncompleted

event was represented by a sequence that depicted the event in progress. A completed event was represented by a sequence where the first two pictures depicted the event in progress and the third picture showed only the end-state of the event.

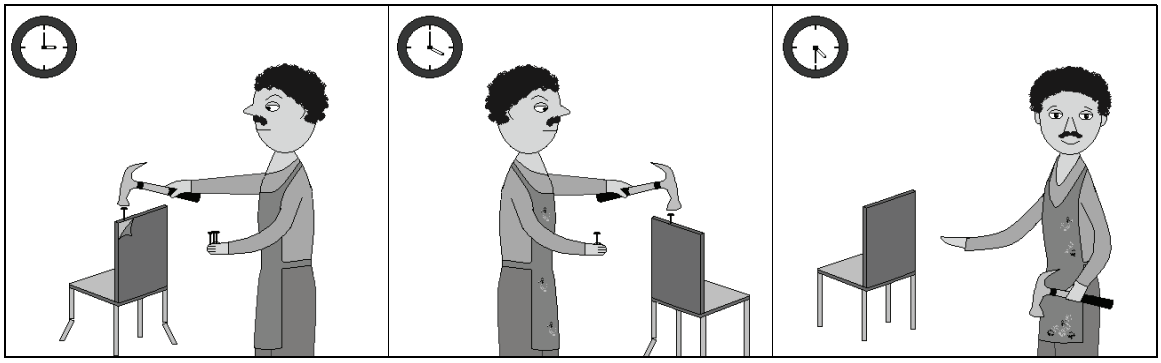
To demonstrate, consider the sentence *Petja* ***po****činil stul* "Peter fixed the chair", containing the PERF variant of the verb "to fix". The uncompleted *fixing* event was represented by the sequence in (5), which depicted Petja fixing a chair:

(5)



The completed *fixing* event was represented by the sequence in (6), where the first two pictures depicted the event in progress and the third picture depicted Petja pointing to a fixed chair:

(6)



The participants were asked to determine whether the sentence *Petja* ***po****činil stul* "Peter fixed the chair" matches the depicted event. There were three choices of answers available to the participants: *Yes*, *No*, *Don't know*. The participants were specifically instructed to use *Don't know* only in the case of unfamiliar vocabulary.

19 of the L2 participants took a paper version of the test, while the other 22, as well as native controls, took a computerized version online. In both situations, participants were prohibited from going back and changing their initial answers. In the computerized version, participants were limited to 20 seconds to provide an answer for a given sentence.[226]

7.1.1.4. Predictions

Depending on which telicity-assigning mechanism the participants use, direct or indirect, they are expected to behave in two different ways.

The L2 participants who have successfully reset the Telicity parameter from English to Russian are expected to interpret prefixed PERF verbs as entailing completion, as shown in (7):

(7) Perfective verbs:

a. Petja **s-**varil ris. → completed
'Petja cooked-PERF rice-MASS."

b. Petja **po-**gladil rubaški. → completed
'Petja ironed-PERF shirts-PL.'

c. Petja **po-**činil stul. → completed
'Petja fixed-PERF a/the chair-SG.'

d. Maša **s-**šila dva platja. → completed
'Masha saw-PERF two dresses-Q PL.'

In terms of the task used in Experiment 1, this means that L2 subjects who employ the Russian telicity-assigning mechanism are expected to judge the sentences containing PERF verbs as matching completed but not uncompleted events. Moreover, their performance is expected to be independent of the aspectual value of the internal argument.

[226] The paper version of the test was developed well before the computerized version. Only when I failed to find in Montreal a significant number of advanced speakers of Russian, did I decide to use a computerized version of the test. This permitted me to test subjects who were outside of the Montreal area at the time of testing, particularly in Russia and USA.

As for prefixless IMP verbs, the L2ers who use the Russian mode of telicity assignment are expected to treat these verbs as not entailing completion, as shown in (8):

(8) Imperfective verbs:

a.	Petja varil	ris.	-/→[227]	completed
	'Petja cooked-IMP	rice-MASS."		
b.	Petja gladil	rubaški.	-/→	completed
	'Petja ironed-IMP	shirts-PL.'		
c.	Petja činil	stul.	-/→	completed
	'Petja fixed-IMP	a/the chair-SG.'		
d.	Maša šila	dva platja.	-/→	completed
	'Masha saw-IMP	two dresses-Q PL.'		

As has been argued in the theoretical part of this thesis, although IMP verbs do not entail completion they are, nonetheless, compatible with completed events. In particular, they can be used to describe the internal stages of completed events. Note that from the perspective of the task used in Experiment 1, sentences containing an IMP verb should be judged as matching both uncompleted and completed events.[228] L2 participants who have acquired the Russian telicity-assigning mechanism are expected to exhibit this native-like behaviour, accepting IMP sentences in both uncompleted and completed conditions. Just as in the case with the PERF sentences, their performance on the IMP sentences is expected to be independent of the aspectual value of the verb's internal argument.

In contrast, L2 participants who still employ the English telicity-assigning mechanism are expected to pay attention to the aspectual status of the verb's internal argument, considering only the verbs that appear with a quantity internal argument, such as a singular count or overtly quantified noun, to be telic, or, to put it differently, entailing completion (see 9 & 10). Their performance is expected not to depend on the morphological make up of the verb.

[227] Recall that this sign means "does not entail".

[228] Why this is so can be demonstrated by an example. Consider, for instance, the stimuli sentence *Petja činil*-IMP *stul* "Petja was-fixing a/the chair". This sentence certainly matches those parts of the event in (6) that are depicted by the first two pictures. In fact, if *Petja fixed a/the chair* is true then it is also true that *He was fixing it*. This being said note that since the IMP does not match the last picture in (6), the PERF is a 'better'/'preferred' candidate to describe a completed event, given that, unlike the IMP, it matches all three pictures.

(9) Perfective verbs:

a. Petja **s-**varil ris. -/→ completed *incorrect
'Petja cooked-PERF rice-MASS."

b. Petja **po-**gladil rubaški. -/→ completed *incorrect
'Petja ironed-PERF shirts-PL.'

c. Petja **po-**činil stul. → completed
'Petja fixed-PERF a/the chair-SG.'

d. Maša **s-**šila dva platja. → completed
'Masha saw-PERF two dresses-Q PL.'

(10) Imperfective verbs:

a. Petja varil ris. -/→ completed
'Petja cooked-IMP rice-MASS."

b. Petja gladil rubaški. -/→ completed
'Petja ironed-IMP shirts-PL.'

c. Petja činil stul. → completed *incorrect
'Petja fixed-IMP a/the chair-SG.'

d. Maša šila dva platja. → completed *incorrect
'Masha saw-IMP two dresses-Q PL.'

Subjects who still use the English telicity-assigning mechanism are predicted to make two types of errors in Russian. First, they are expected to inaccurately assume that sentences containing a PERF verb and a non-quantity DP, such as a mass or plural noun, are atelic and thus match both completed[229] and uncompleted events, when in reality they only match completed events. Second, they are predicated to incorrectly compute the telicity value of the IMP verbs that appear with a quantity DP as being telic. This would force them to wrongly judge these predicates as matching completed but not uncompleted events, while in reality they match both. [230]

[229] Just like Russian IMP verbal predicates, English atelic verbal predicates can describe internal stages of a telic event. Consequently, they too are compatible with completed events. Thus, if it is true that *Peter ironed the shirts*, then it must also be true that *He ironed shirts*.

[230] Note that speakers who use the English telicity-assigning mechanism are predicted to pay no attention to the fact that the verbs they are dealing with are IMPs (i.e., prefixless), and, as such, should contain an outer aspect projection filled by the Ø-morpheme. Adding an outer aspect projection to the event that has been incorrectly computed as telic (IMP + quantity N) would turn this event into an unbounded one, disrupting

Keeping these predictions in mind let me present the results of the experiment.

7.1.1.5. Results

Table 2 reports the rate of acceptances (the number of 'true' responses) of sentences containing IMP and PERF verbs in completed as well as uncompleted contexts:

Table 2 Group results: Mean Acceptances (out of 20)

Type of condition	*Controls* (n=10)			*Advanced* (n=5)			*Hi Int* (n=27)			*Low Int* (n=9)		
	M	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*
PERF-COM (T)	19.9	0.32	99.5	19.6	0.89	98	19.5	0.75	97.5	17.6	2.07	88
PERF-UNC (F)	0.6	0.84	3	1	0.71	5	1.6	1.34	8	6.2	2.49	31
IMP-COM (T or F)	15.5	7.93	77.5	8.6	9.99	43	9.5	9.46	47.5	10.7	7.02	53.5
IMP-UNC (T)	19.8	0.63	99	19.4	0.89	97	19	1.27	95	15	0.71	75

As can be seen from this table, the behaviour of the advanced and high intermediate participants on the PERF-COM (perfective-completed) and PERF-UNC (perfective-uncompleted) conditions closely approximated the native controls, with only the low intermediate subjects performing worse than other three groups. The important thing to note in respect to these two conditions is that all L2 participants, including the Low Intermediate group, as well as the native controls judged the sentences with PERF verbs as matching completed events much more often than uncompleted events.

This tendency to judge the stimuli with PERF verbs as matching completed but not uncompleted events can be seen more clearly in Figure 1 which depicts performance of all four groups with respect to the PERF stimuli:

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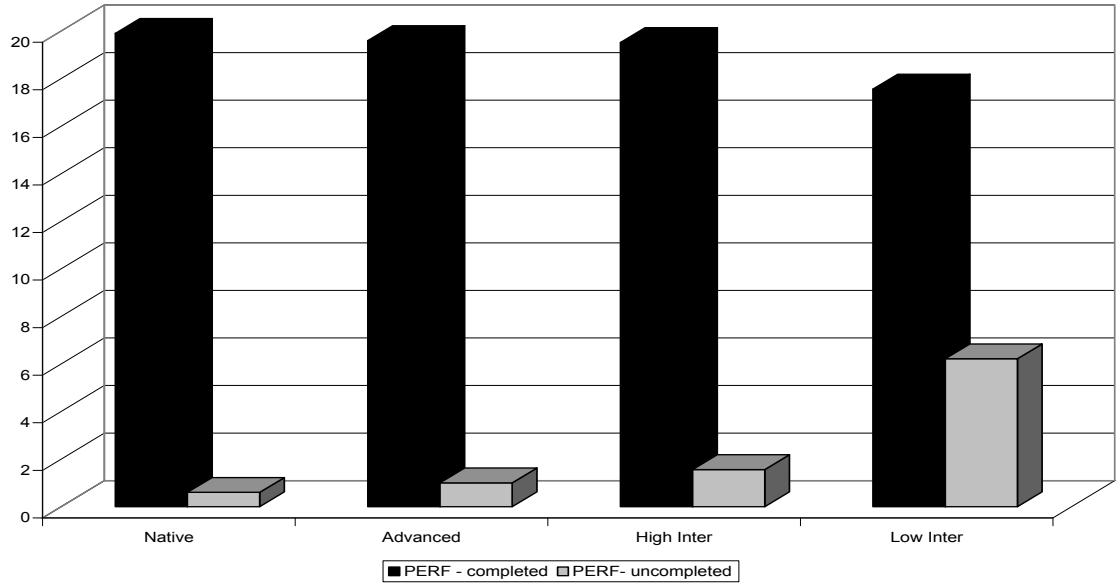
the completion entailment that we hope to observe. Another reason why the IMP verbs that have been computed as telic cannot be inflected with the Ø-morpheme is that this morpheme can only attach to atelic *v*Ps. This mean that as far as transfer is concerned, L2ers who still use the English telicity-assigning mechanism are expected to judge IMP verbs that appear with quantity Ns as not matching uncompleted events.

Figure 1 Group results: PERF sentences, acceptances (out of 20)



The results of a two-way ANOVA confirm that there is a significant difference between group performance in the PERF-COM and PERF-UNC conditions ($F = 6.463$; $df = 3, 94$; $P = 0.001$) and that the rate of acceptance of the PERF sentences is significantly higher in the PERF-COM condition than in the PERF-UNC condition ($F = 3003.143$; $df = 1, 94$; $P < 0.001$). There is also a significant interaction between groups and the two conditions under consideration ($F = 37.658$; $df = 3, 94$; $P < 0.001$), with the Low Intermediate group performing significantly worse than the other three groups in both of these conditions. Importantly, even the participants of this group did accept on average of 17.56 of the PERF sentences in the completed but only 6.22 of these sentences in the uncompleted condition.

In addition to the results on the PERF sentences, Table 2 reports the results on the IMP sentences. Although the acquisition of primary IMP verbs – the verbs used in this experiment – does not involve resetting of the Telicity parameter, these results were included to see whether L2 participants treat IMP verbs as entailing completion, accepting them in both completed and uncompleted conditions.

The results of a one-way ANOVA reveal a group effect in the IMP-UNC condition ($F = 41.447$; $df = 3, 47$; $P < 0.001$), with the Low Intermediate group performing, once again, significantly worse than the other three groups. In contrast, the differences between

group performances are not statistically significant in IMP-COM condition (F = 1.241; df = 3, 47; P = 0.305).[231]

To recap, when performing the task, the advanced as well as the high intermediate participants exhibited behaviour similar to that of native controls on all four tested conditions. As for the low intermediate participants, they were less accurate than the other participants on three out of the four conditions, namely on the PERF-COM, PERF-UNC and IMP-UNC conditions. Importantly, even the low intermediate participants accepted significantly fewer of the PERF sentences in the uncompleted than in the completed condition.

Table 3 reports the results of Experiment 1 taking into consideration the aspectual value of the internal argument. From these results we can determine whether or not the participants, especially those of the low intermediate group whose performance differed significantly from that of other three groups, were paying any attention to the aspectual value of the verb's internal argument, while computing telicity of the stimuli.

Table 3: Group results: Interaction between conditions and the types of nouns

Conditions	*Noun Type*	*Controls* (n = 10)			*Advanced* (n = 5)			*High Inter* (n = 27)			*Low Inter* (n = 9)		
		M	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*
PERF-COM	Q	9.9	0.32	99	9.8	0.45	98	9.8	0.4	98	9.1	0.6	91
(T)	NQ	10	0	100	9.8	0.45	98	9.7	0.47	97	8.4	1.59	84
IMP-COM	Q	7.7	4.08	77	4.4	5.13	44	4.9	4.69	49	6	3.46	60
(T) or (F)	NQ	7.8	3.88	78	4.2	4.87	42	4.6	4.81	46	4.7	3.61	47
PERF-UNC	Q	0.2	0.42	2	0.4	0.55	4	0.6	0.74	6	2.1	1.27	21
(F)	NQ	0.4	0.52	4	0.6	0.55	6	1	0.76	1	4.1	1.45	41
IMP-UNC	Q	9.8	0.63	98	9.4	0.89	94	9.3	0.96	93	6.6	0.53	66
(T)	NQ	10	0	100	10	0	100	9.6	0.49	96	8.4	0.53	84

As we can see, in both completed conditions, i.e., PERF-COM and IMP-COM, the L2 participants judged the sentences similarly regardless of whether they contained

[231] The reason why I do not compare the participants' performance on the IMP-COM and IMP-UNC conditions is because in the IMP-COM condition, unlike in the IMP-UNC condition, both T and F replies were acceptable. Even though the L2ers chose F more often than the native controls, exhibiting stronger preference for having a PERF rather than an IMP verb to describe a completed event, their performance was accurate. As can be seen from the individual results reported in Appendix C, each L2er, just like each Russian native, consistently chose only one of two options, either T or F. Interestingly, the pattern whereby native Russians accept both uses of IMP more often than L2ers was also discovered by Slabakova (2005).

quantity (Q) or non-quantity (NQ) nouns. According to Welch's unpaired t test the differences between the acceptances of the sentences with quantity Ns and those with non-quantity Ns are not statistically significant in either of the completed conditions. Specifically, in the case of the PERF-COM condition the differences are the following: t = 1, P = 0.3306 for Controls, t = 0, P = 1 for Advanced, t = 0.95, P = 0.3492 for High Intermediate and t = 1.1767, P = 0.2565 for Low Intermediate, while in the case of the IMP-COM condition t = 0.0561, P = 0.9559 for Controls, t = 0.0632, P = 0.9511 for Advanced, t = 0.2292, P = 0.8196 for High Intermediate and t = 0.8, P = 0.4354 for Low Intermediate.

Just like in the completed conditions, in the uncompleted conditions too the difference in performance on the sentences with quantity Ns and the sentences with non-quantity Ns was not statistically significant for the Control, Advanced and High Intermediate group: in PERF-UNC t = 0.9487, P = 0.3553 for Controls, t = 0.5774, P = 0.5796 for Advanced, t = 1..6327, P = 0.1087 for High Intermediate, and in IMP-UNC t = 1, P = 0.3306 for Controls, t = 1.5, P = 0.1720 for Advanced, t = 1.4263, P = 0.162 for High Intermediate. This difference, however, was found to be statistically significant in the case of the Low Intermediate group: in PERF-UNC t = 3.1099, P = 0.0067 and in IMP-UNC t = 7.6026, P < 0.0001. Hence, once again, the Low Intermediate group exhibited a behaviour that diverges from the behaviour of the other three groups.

Let us now turn to the discussion of the results.

7.1.1.6. Discussion

I will start the discussion by considering, first, the performance of the L2 participants on the stimuli containing PERF verbs, as the acquisition of these verbs depends on the resetting of the Telicity parameter from indirect to direct mode. Recall that the L2ers, who have successfully reset this parameter, should have considered the sentences with prefixed PERF verbs as matching completed but not uncompleted events, given that these sentences entail completion (see 7).

As we have seen in the previous section, all four groups of participants accepted significantly more sentences with PERF verbs in the context of completed than in the

context of uncompleted events. This trend to accept the PERF stimuli with completed but not uncompleted events reveals that the L2 participants did compute the PERF verbs as telic and, as such, as entailing completion (i.e., as being compatible only with completed events) most of the time. In order to properly compute a telicity value of Russian perfective verbs, as they did, the L2 participants must have switched the Telicity parameter from the English to Russian setting. These findings thus demonstrate that English speakers acquiring Russian as L2 can successfully reset the Telicity parameter from indirect to direct, attaining native-like competence in the domain of inner aspect.

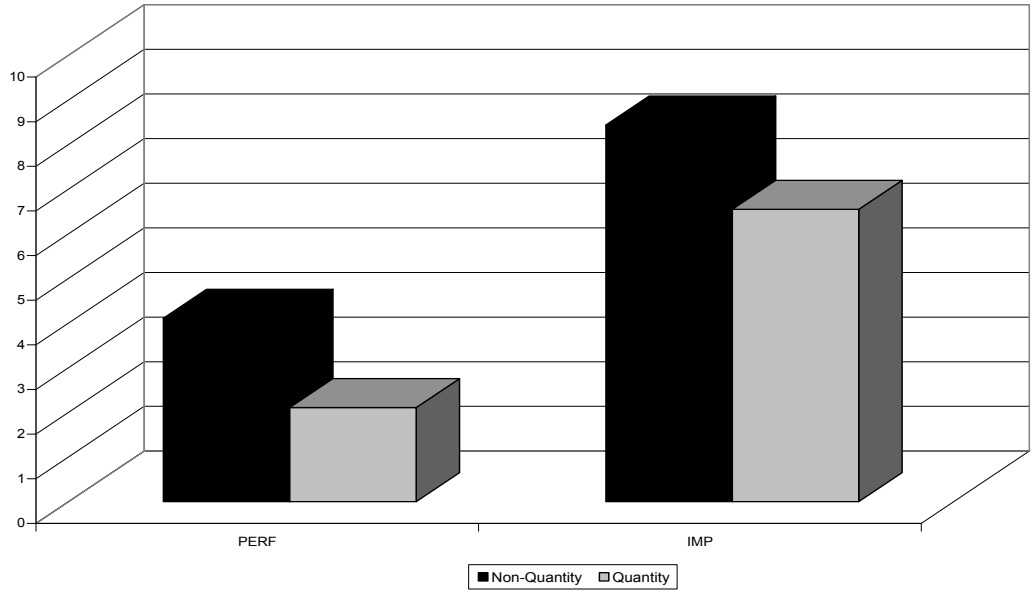
This being said, note that the performance of the Low Intermediate group differs significantly from the performance of the other three groups. Was the relatively lower performance of the low intermediate participants caused by negative transfer from English? In other words, could it be that the majority of errors produced by the low intermediate participants were interference errors? This is where the results reported in Table 3 come into play. Before we interpret these results recall that L2ers who use the English telicity-assigning mechanism were predicted to incorrectly judge sentences with a non-quantity nouns, as matching uncompleted events, without paying attention to the morpho-syntactic structure of the verbs used in these sentences (see 9 and 10).

While none of the participants displayed such 'drastic' behaviour, the Low Intermediate group, nonetheless, displayed a tendency, in both the PERF-UNC and IMP-UNC conditions, to accept more of the sentences with a non-quantity noun, than those with a quantity noun. This trend was found to be statistically significant. These findings suggest that negative transfer from English is still strong in the case of this proficiency group.

Importantly, although the low intermediate participants did not use the Russian telicity setting 100% of the time, neither did they use the English telicity setting 100% of the time. Otherwise, we would expect them to judge 10 of PERF sentences with homogenous Ns and 0 of PERF sentences with quantity Ns as matching uncompleted events. Instead, they accepted a mean of 4.1 and 2.1 of these sentences respectively. Moreover, if the low intermediate subjects were only using the English telicity-assigning mechanism, they would also judge 10 of the IMP sentences with homogenous Ns and 0 of the IMP sentences with quantity Ns as matching uncompleted events. Yet, what we find is

that they accepted a mean of 8.4 and 6.6 of these sentences respectively, as shown in Figure 2:

Figure 2 Low Inter group: Uncompleted conditions, acceptances (out of 10)



As we can see from Figure 2, not only does the performance of the low intermediate participants show signs of only partial transfer, with the stimuli with non-quantity Ns being accepted less than 100% and the stimuli with quantity Ns more than 0% in both the PERF-UNC and IMP-UNC conditions, but also it reflects the fact that even these participants have started to pay attention to the morphological make up of the tested verbs, accepting more of the IMP (with a bare prefixless verb) than PERF (with a prefixed verb) sentences in the uncompleted context. While these results reveal the low intermediates' emerging knowledge of the Russian telicity-assigning mechanism, this knowledge is, nonetheless, incomplete. Thus, unlike participants in the higher proficiency groups, the low intermediate subjects have not completely blocked transfer from English. Consequently, they sometimes use the Russian telicity-assigning mechanism and sometimes the English one. To put it differently, their behaviour is characterized by optionality, whereby they use both telicity settings: that found in L2 and that found in

L1.[232] Yet, since the participants of the High Intermediate and Advanced groups disallow such optionality, we can conclude that they behaviour matches that of native Russians.

Sorace (2005) claims that L2ers' interlanguage often displays residual optionality. We will explore different ways to explain structural optionality in the concluding chapter of this thesis. Specifically, we will raise and attempt to answer the question whether the optionality that L2ers permit is a reflection of their imperfect competence or, rather, performance. What is important at this point is to notice that English learners of Russian can overcome optionality in the domain of inner aspect quite early in the process of acquisition, with high intermediates performing already at the native-like level.

To sum up, in this section we have considered the results of Experiment 1 – an experiment that tested the L2 acquisition of the Russian telicity-assigning mechanism by English native speakers. The performance of the L2 subjects indicates that the advanced and high intermediate participants have successfully switched the Telicity parameter from the English to Russian setting. The performance of the Low Intermediate group reveals residual transfer from L1. All these findings replicate those found by Slabakova (2005).

The question that I will address before concluding this section is whether successful resetting of the Telicity parameter from indirect to direct argues in favour of the Full Access part of the FTFA hypothesis. Slabakova (2005) claims that the ability of English learners to acquire Russian inner aspect supports FTFA. Since she postulates that Russian, unlike English, contains a PerfP, for her the native-like performance of English speakers indicates that they have successfully acquired a new functional projection, the acquisition of which is arguably not possible without UG. In the light of the parameter that I propose in this dissertation, cases of successful acquisition of inner aspect, however, simply indicate that L2ers are able to reset the Telicity parameter.[233] The question is:

[232] In order to perform similarly to Russian natives on the task used in this experiment, L2ers also need to learn which among prefixes yields a transparent meaning with a given root. This knowledge is essential for decomposing prefixed verbs into morphemes – a step necessary for an accurate calculation of telicity. If so, could it be that optional behaviour of the low intermediate participants reflects problems with such knowledge? The answer to this question is no. As we will see shortly, not only did the low intermediates exhibit optional behaviour with perfective verbs, but also with IMP verbs, despite the fact that these verbs do not contain a preverb. This suggests that imperfect behaviour of the low intermediate subjects in Experiment 1 cannot be attributed to the lack of lexical knowledge.

[233] Recall that, unlike Slabakova (2001, 2005), I assume that telicity is computed in the same syntactic projection, namely Asp_QP, in both English and Russian. Within the theoretical framework that I assume, in order to acquire telicity in Russian, English learners need to switch the direction of AGREE from the indirect to direct mode, rather than acquire a new functional projection. Note, however, that the results of

is successful resetting possible without UG? In other words, do L2ers need to have access to UG in order to learn the Russian telicity-assigning mechanism? The answer to this question is yes. To see why consider the alternatives.

One way to explain the successful L2 acquisition of the Russian telicity-assigning mechanism by English speakers might be by claiming that these speakers simply apply metalinguistic rules that they have either learned in the formal setting or directly extracted from the input (following Bley-Vroman 1989, 1990, Clahsen & Muysken 1986 and Schachter 1990, 1996). The problem is that the metalinguistic 'rules' that are formally taught are often inaccurate. Thus, while it is quite trivial to state the rule necessary for the Russian telicity assignment in terms of linguistic structure: allow the lexical feature [quantity], a verbal prefix or the semelfactive suffix *-nu* to properly license an Asp_QP, it is not that easy to define this rule from a metalinguistic perspective. This is why Russian grammar books contain a metalinguistic rule that covers only a subset of Russian perfective verbs. This rule mistakenly equates the term *perfectivity* with *completion*. In fact, even the Russian name for *perfective verbs*, i.e., *glagoly soveršenogo dejstvija*, literary means "verbs of completed actions". However, as we have seen in the theoretical part of this thesis, Russian inceptive verbs are both perfective and not completive. If L2 instructions were guiding L2 acquisition, L2ers would never be able to properly acquire Russian inceptive verbs, given the deficiency of the rule they are taught in class. Not only would this rule lead them down the garden path, causing them to mistakenly analyse Russian inceptive and delimitative verbs as completive, but they would be unable to ever backtrack from this misanalysis, given the ineffectiveness of negative evidence (Schwartz & Gubula-Rysakm 1992, Bruhn-Garavito 1995, Belikova 2008).[234]

Not only are metalinguistic rules often inaccurate, but also they are ineffective (White 1991, Bruhn-Garavito1995, Belikova 2008). Besides, 6 of the L2 subjects that participated in Experiment 1 had no exposure to formal instruction at all. Nonetheless, they were able to acquire the Russian telicity-assigning mechanism just as well as

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Experiment 1 are compatible with both theoretical accounts – one proposed by Slabakova and the other advanced in this thesis. To put it differently, the results of Experiment 1 cannot distinguish between these two accounts.

[234] Unfortunately, I did not test L2ers' knowledge of inceptive and delimitative verbs. I, thus, leave to further research the task of showing whether L2ers are able to acquire these 'exceptional' verbs, not relying on the deficient metalinguistic rule presented in a classroom setting.

the other 35 L2 participants.[235] These findings suggest that formal instructions play no crucial role in L2 acquisition of the Russian telicity-assignment mechanism.

Can it then be that L2ers extract the relevant 'rules' from the input? Given the complexity of the Russian system, this task is nearly impossible, unless L2ers know a priori (from UG) what they are looking for. For one thing, Russian uses both lexical and syntactic telicity-assigning mechanisms. Second, syntactically, it can mark a verb as telic using either a preverb or the suffix *-nu*. Third, Russian preverbs perform different semantic functions. They can either change or not change the meaning of the root they attach to. Moreover, they can add an initial, final or both points to the event encoded by the root they attach to, depending on the meaning of the root. And on top of that verbs containing preverbs are often inflected with the SI suffix *-va*. Even linguists who work on aspect cannot come to a consensus over whether Russian perfective verbs form a single class. More so for formally untrained L2 learners. The Russian aspectual system is too complex to determine, based on the input alone, the rule(s) responsible for assigning an accurate telicity value to Russian verbs. L2ers need UG to access a telicity setting distinct from the one found in their L1.

In the light of this argument, the successful resetting of the Telicity parameter from indirect to direct that we have observed in Experiment 1 supports the Full Access part of the FTFA hypothesis. The results of Experiment 1 also partially support the Full Transfer part of the FTFA hypothesis, by showing that L2ers belonging to lower proficiency groups still have residual transfer from L1.

7.2. Acquisition of the Russian shifting operation

As we have discussed earlier, to properly acquire Russian PERF verbs, it is not enough for English speakers to switch the telicity setting from indirect to direct. They must also learn that the morphologically present tense forms of Russian PERF verbs have a future tense interpretation.

In this section, I report on an experiment that tested, among other things, whether L2ers are able to acquire the Russian shifting operation.

[235] Curiously, these participants performed worse than the participants who learned Russian in a formal setting on the standard proficiency test that I initially used and then dropped, given that this test tested knowledge of various idiosyncrasies of Russian morphological system, e.g., case and agreement endings.

7.2.1. Experiment 2

The purpose of this experiment was to determine whether English speakers acquiring Russian as L2 can acquire various properties of PERF and IMP verbs not related to inner aspect. As far as PERF verbs are concerned, Experiment 2 tested whether L2ers can properly acquire the Russian shifting operation as well as the fact that PERF verbs are disallowed in analytic future.

To make my presentation more comprehensive, I will first discuss stimuli and results pertaining to acquisition of the Russian shifting operation and then turn to the presentation of stimuli and results that disclose L2ers' knowledge of whether or not PERF verbs are compatible with analytic future. Note that apart from testing PERF verbs, Experiment 2 also tested acquisition of the syntactic structure and various conditions related to IMP verbs. The stimuli and results pertaining to IMP verbs will be presented in Chapter 8.

7.2.1.1. Participants

There were 50 participants in this experiment: 10 native speaker controls, 6 advanced, 25 high intermediate and 9 low intermediate. Apart from one advanced L2 participant, the rest of the subjects also participated in Experiment 1.[236] Picking the same participants was not coincidental. In doing so, I wanted to test those subjects who were able, as determined by the results of Experiment 1, to recognize that Russian PERF verbs consist of the root and a preverb as well as to associate this preverb with the inner aspect projection. Establishing this was especially imperative in the case of lower proficiency groups, which, in theory, may lack this essential ability. Given that all of the subjects that participated in Experiment 1 treated PERF verb differently from IMP ones, they were all qualified to participate in Experiment 2. However, two of the high intermediate participants who participated in Experiment 1 did not participate in Experiment 2.

7.2.1.2. Task

In Experiment 2 a computerized grammaticality judgment task was used. While performing the task, the participants were asked to indicate whether the sentences

[236] Readers are referred to section 7.1.1 for more detailed description of all participants.

presented to them (one at the time) were grammatical or not. There were three choices of answers available: *Yes*, *No*, *Don't know*. The participants were specifically instructed to use *Don't know* only if they encountered some unfamiliar vocabulary.

To prevent unconscious misreading of ungrammatical sentences, whereby subjects, ignoring visual information that makes these sentences ungrammatical, misperceive them as grammatical, participants were also presented with audio recordings of the sentences they were reading, recorded by a Russian native speaker. For each sentence, they had 30 seconds to reply. The test was designed in a manner that prevented the participants from going back and changing their initial answers.

7.2.1.3. Stimuli

Out of 100 sentences that were used in Experiment 2, 20 contained morphologically present tense forms of Russian PERF verbs. To block interference from English at the level of inner aspect, all sentences with PERF verbs contained quantity internal arguments, either singular count nouns, e.g., *sigareta* "a/the cigarette", *kurica* "a/the chicken", cardinal nouns, e.g., *tri salata* "three salads", *odna čaška čaja* " one cup of tea" or referential nouns, e.g., '*Voina i Mir'* "War and Peace" – refers to the famous novel by Leo Tolstoy", *svoi ruki* "her hands" – refers to the person's hands and *eta reka* "this river" – refers to the river perceivable by both interlocutors.[237]

To test whether L2 participants treated PERF verbs as incompatible with present tense, 5 of the PERF sentences appeared with the adverb *v nastojaš'ij/dannɨj moment* "at this moment" which imposes an ongoing event reading.

(11) *V nastojaš'ij moment Petina komanda **pro**igraet-PERF match.
At this moment Petja's team will-lose match.
'At this moment, Petja's team will lose the match.'
Intended: "At this moment, Petja's team loses (completely) the match."

Another 5 of the sentences with PERF verbs tested whether or not L2 subjects shift PERF verbs into the habitual, as they would do with their English structural equivalents. To ensure the habitual reading of these sentences, they appeared with a habitual adverb, e.g., *často* "often", *vsegda* "always":

[237] For the full list of the PERF stimuli that were used in this experiment consult Appendix D.

(12) *Policija reguljarno **raz**isčet-PERF etix prestupnikov.
Police regularly will-search-for these criminals.
"The police will regularly search for these criminals."
Intended: "The police regularly search for (and find) these criminals."

And finally, 10 out of 20 sentences containing PERF verbs appeared with an adverb that gives rise to a future tense reading. These sentences were intended to check whether or not the L2ers allowed for the verb's interpretation to shift into the future:

(13) Čerez 10 minut Petja **vi**učit-PERF eto stixotvorenie naizust'.
In 10 minutes Petja will-learn this poem by-heart.
In 10 minutes, Petja will learn this poem by heart".

In (14), I listed all the verbs that were tested in these three conditions, which we shall call the PERF-ONG, PERF-HAB and PERF-FUT conditions respectively:[238]

(14) Stimuli used in the PERF-ONG, PERF-HAB and PERF-FUT conditions

PERF-ONG	
***pere**čitajet*	"***pere*** + reads = will reread"
***pere**delaet*	"***pere*** + does = will redo"
***do**žarit*	"***do*** + fries = will fry up"
***pro**igraet*	"***pro*** + play = will lose"
***pri**kurit*	"***pri*** + smoke = will lights up (a thing that can be smoked)"

PERF-HAB	
***pod**pišet*	"***pod*** + writes = will sign"
***za**varit*	"***za*** + cooks = will prepare (tea)"
***u**moet*	"***u*** + washes = will wash"
***raz**isčet*	"***raz*** + searches = will search for"
***u**govorit*	"***u*** + speaks = will persuade"

[238] Unfortunately, the large number of sentences used in Experiment 2 made me miss the fact that the number of stimuli in the PERF-ONG and PERF-HAB conditions is smaller than the number of stimuli in the PERF-FUT condition. I plan to correct this methodological problem in future research.

PERF-FUT	
***pri**gotovit*	"***pri*** + prepares = will prepare"
***s**est*	"***s*** + eats = will eat up"
***na**kormit*	"***na*** + feeds = will feed"
***ras**krasit*	"***ras*** + paints = will color in"
***za**rabotaet*	"***za*** + works = will earn"
***do**pjot*	"***do*** + drinks = will drink up"
***vi**učit*	"***vi*** + learns = will learn"
***s**pojot*	"***s*** + sings = will sign"
***vi**lečit*	"***vi*** + treats = will cure"
***pere**plivjot*	"***pere*** + swims = will swim across"

The important thing to notice in relation to the PERF verbs used in these conditions is that all of them entail completion, whether or not this is transparent from their English translations. For instance, the verb ***raz**iščet* "***raz***-searches" not only means "will search" but also that the event of *searching* will terminate successfully and the police will find *these criminals*. To put it differently, just like Experiment 1, Experiment 2 tested knowledge of completive PERF verbs. The reason why I decided to use only completive verbs is that I wanted to make sure that the L2 participants had knowledge of the *v*P-internal structure of the tested PERF verbs. Thus, their performance in the part of Experiment 2 described here directly depended on whether or not they have acquired the appropriate structure of Russian PERF verbs. In particular, in order to perform accurately, they must have recognized that these verbs contain a preverb and that this preverb marks inner aspect. As revealed by the results of Experiment 1, all L2 participants were able to assign appropriate structure to Russian completive verbs, although the participants of the Low Intermediate group were able to do so to a lesser extent than the participants of the Advanced and High Intermediate groups, mainly due to negative transfer from English.

This being said, note that Experiment 2 contained a different set of completive verbs from Experiment 1. While in Experiment 1 only PERF accomplishments were tested, Experiment 2 contained both achievements, e.g., ***pro**igrat'*-PERF "to lose", ***u**govorit'*-PERF "to persuade" and accomplishments, e.g., ***pere**čitat'* -PERF "to reread", ***pri**gotovit*'-PERF "to prepare". This is because in Russian, the morphologically present tense forms of both achievements and accomplishments are incompatible with the present tense interpretation and, consequently, undergo a semantic shift into the future. In other words, the shifting operation applies to both Russian achievements and accomplishments.

While it is not clear whether English speakers acquiring Russian achievements compute their telicity lexically or compositionally, there is no reason to believe that they would ever fail to assign a telic value to these predicates, given that these verbs encode a change-of-state and are, thus, telic by definition. To put it differently, regardless of the mode of telicity assignment that they use, they will inevitably assign the correct structure to these verbs – that of structural Asp_QPs. But once they derive the correct structure, the L2ers should recognize that this structure is incompatible with the present tense interpretation (in both L1 and L2). Consequently, they should apply a shifting operation to Russian achievements verbs. This is where we can observe which of the two shifting operations, that of L1 (into the habitual) or that of L2 (into the future), they use.

Another important observation related to the verbs listed in (26) is that all 10 verbs that appear in the PERF-ONG and PERF-HAB conditions contain lexically 'filled' prefixes, i.e., prefixes that alter the meaning of the root or add additional shades of meaning to the meaning expressed by the root. In contrast, the majority of stimuli verbs that were tested in the PERF-FUT condition, i.e., 7 out of 10, contain lexically 'empty' preverbs, i.e., preverbs that simply add a final end-point to the event encoded by the root, without changing its basic meaning.

The reason why non-transparent idiosyncratic PERF verbs were chosen has to do with the fact that apart from testing whether or not English learners of Russian would permit PERF verbs to appear in present and habitual contexts, Experiment 2 also tested whether they would treat the secondary imperfective forms, derived from these PERF stems, in the same manner. Given that, in general, only Russian verbs that contain lexically 'filled' prefixes allow for the process of secondary imperfectivization (SI), my choice of PERF verbs was limited to these morphologically less transparent verbs.[239]

As we will see shortly, this distinction in the type of prefixes used had an impact on the performance of the L2 participants. But before we consider the results, let me outline the predictions that follow from the FTFA hypothesis – the hypothesis that we have

[239] The choice of morphologically transparent forms in the PERF-FUT condition was somewhat unfortunate, as these verbs block the process of the secondary imperfectivization (SI) that we have discussed in the theoretical part of this thesis. Consequently, in Experiment 2 I failed to test whether or not SI verbs are susceptible to the semantic shift into the future or to analytic future formation. This being said note that it also had one indispensable advantage. As we will see shortly, it will allow us to observe that the L2 participants experienced more difficulties with idiosyncratic verbs than with non-idiosyncratic ones, suggesting that they treated the former but not the latter as morphological chunks.

adapted as our working hypothesis – about the L2 acquisition of the properties tested in the PERF-ONG, PERF-HAB and PERF-FUT conditions of Experiment 2.

7.2.1.4. Predictions

According to FTFA, English learners of Russian should not experience any difficulties in determining that the morphologically present tense forms of Russian verbs that are structurally non-stative *v*Ps/Asp$_Q$Ps (i.e., PERF verbs) cannot receive an ongoing event interpretation, given that their English counterparts (i.e., simple accomplishments/ achievements) are also incompatible with the ongoing reading. In other words, they should exhibit native-like behaviour in judging the sentences with the present tense form of PERF verbs as ungrammatical, as long as they assign the correct structure to them.[240]

Given the abundance of positive evidence, whereby the present tense forms of Russian perfective verbs always undergo a semantic shift into the future, it should be not hard for L2ers to realize that the shifting operation in Russian is into the future.[241] If so, this means that even the L2 participants belonging to low proficiency groups, should allow sentences containing a present tense form of a PERF verb to receive a future tense interpretation. Nonetheless, to exhibit such native-like behaviour, they must recognize that these verbs consist of a verbal root and a preverb that licenses an Asp$_Q$P.

Once L2ers realize that in Russian the shift is into the future, they should stop using the English shifting operation. Thus, yielding to a universal economy principle, they should not employ two distinct operations to 'save' a given illegitimate derivation. This being said, note that their performance may still contain interference errors caused by negative transfer. Only participants who have completely blocked transfer of the English shifting operation are predicted to accurately reject the sentences with PERF verb in the habitual context.

Having looked at the predictions, let us see whether they are met in the results of Experiment 2.

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[240] As has been argued in this thesis, inability to receive an ongoing event interpretation is a universal property of non-stative verbs.

[241] The fact that Russian PERF verbs can only be used in future is explicitly taught to speakers learning Russian. Since in this dissertation I assume that formal instruction causes minimal impact on L2 acquisition, my predictions simply rely on the presence of positive evidence in the input.

7.2.1.5. Results

Table 4 reports the rate of acceptances of the ungrammatical sentences appearing in the PERF-ONG and PERF-HAB conditions as well as the grammatical sentences appearing in the PERF-FUT condition:

Table 4 Group results: PERF-ONG, PERF-HAB and PERF-FUT conditions, Mean acceptances

Condition	*Controls (n=10)*			*Advanced (n=6)*			*High Int (n=25)*			*Low Int (n=9)*		
	M	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*
*PERF-ONG (out of 5)	0	0	0	0.5	0.55	10	1.76	0.66	35	3	1.00	60
*PERF-HAB (out of 5)	0.1	0.32	2	0.83	0.75	17	2.28	0.78	46	3.89	0.60	78
PERF-FUT (out of 10)	9.9	0.32	99	9	0.63	90	7.88	1.17	79	6.89	1.83	69

As we can see from this table, contrary to the predictions, L2 participants sometimes misanalysed the PERF-ONG sentences as grammatical. In fact, as determined by an one-way ANOVA, both the high intermediate and low intermediate participants made incorrect judgments significantly more often than the native and advanced subjects ($F = 38.540$; $df = 3, 46$; $P < 0.001$). Moreover, the performance by the low intermediate subjects diverged significantly from that of the high intermediates.

To compare the results of this in some sense control condition (as the judgments in this condition were predicted to match English judgments) with the results of the PERF-HAB conditions, a two-way ANOVA was performed. It detected a condition effect ($F = 8.671$; $df = 1, 92$; $P = 0.004$), whereby the participants in general performed more accurately on the PERF-ONG than on the PERF-HAB condition. The differences between group performances were, once again, found to be statistically significant ($F = 94.084$; $df = 3, 92$; $P < 0.001$). No significant interaction, however, was found between conditions and groups ($F = 1.137$; $df = 3, 92$; $P = 0.338$).[242]

While all participants made more errors in the PERF-HAB than in the PERF-ONG condition, according to paired t-test this difference was statistically significant only in the case of the High Intermediate ($t = 2.35$, $P = 0.023$) and Low Intermediate ($t = 2.35$,

[242] The individual results related to the PERF-ONG and PERF-HAB conditions can be found in Appendix E. Given the overall uniformity of these results, I will not discuss them here.

P = 0.025) groups. Yet, if we compare the performance of all groups in the PERF-HAB condition as opposed to the PERF-ONG condition using one-way ANOVA, we will see that there is no group effect (F = 2.046; df = 3, 46 ; P = 0.121).

The last set of data that Table 4 reports has to do with performance on the PERF-FUT condition. As we can see, all participants, including those of the Low Intermediate group, were relatively accurate at judging the PERF-FUT sentences as grammatical most of the time.[243] As revealed by a one-way ANOVA, the differences in performance between the four groups of participants were significant (F = 12.45; df = 3, 46; P < 0.001). According to the results of Scheffe's post hoc test, there was no significant difference between the performance of the Control and Advanced groups, the Advanced and High Intermediate groups and the High Intermediate and Low Intermediate groups. However, the performances of the High Intermediate and Low Intermediate groups differ significantly from the Control group and the performance of the Low Intermediate group differs significantly from the Advanced group.

In sum, the rate of acceptances of the grammatical PERF-FUT sentences dropped with each proficiency group, with the Low Intermediate group making the greatest number of incorrect judgments. Despite this observed decline in performance among proficiency groups, the performance of each of the L2 groups did not differ significantly from the performance of the proficiency group that is only one level higher from it.

Another thing to notice in relation to the PERF-FUT condition is that there was great variation among the participants of the High Intermediate and Low Intermediate groups, with some of them performing similarly to advanced speakers, despite their lower level of proficiency. This can be seen in Table 5 which reports the individual results on the PERF-FUT condition.

[243] As can be seen from Table 4, the L2 subjects performed much better on the PERF-FUT condition than on the PERF-ONG and PERF-HAB conditions. For instance, the low intermediates accepted 69% of grammatical sentences in the PERF-FUT condition, while rejecting only 40% and 22% of ungrammatical sentences in the PEF-ONG and PERF-HAB conditions respectively. One may argue that this distinction is due to a bias towards acceptance – a known behaviour by L2ers, whereby they find easier to accept then to reject sentences when performing a grammaticality judgment task. Note, however, that such a bias could not explain why the subjects properly rejected the vast majority of distractors, all of which were ungrammatical (n = 20). In addition, as we will see in Chapter 8, the high intermediate participants rejected grammatical sentences with SI verbs when these sentences contained a present tense adverbial but not when they contained a habitual adverbial, clearly demonstrating that an acceptance bias cannot be responsible for the obtained results.

Table 5 PERF-FUT. Individual results: acceptances (out of 10)

Group	*Controls*									
Subjects	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**
Results	10	10	10	9	10	10	10	10	10	10
Group	*Advanced subjects*									
Subjects	**S11**	**S12**	**S13**	**S14**	**S15**	**S16**				
Results	10	9	9	8	9	9				
Group	*High Intermediate subjects*									
Subjects	**S17**	**S18**	**S19**	**S20**	**S21**	**S22**	**S23**	**S24**	**S25**	**S26**	**S27**
Results	6	6	8	8	9	9	9	7	6	7	8
Subjects	**S28**	**S29**	**S30**	**S31**	**S32**	**S33**	**S34**	**S35**	**S36**	**S37**	**S38**
Results	8	9	7	9	10	6	8	8	9	7	7
Subjects	**S39**	**S40**	**S41**								
Results	9	9	8								
Group	*Low Intermediate subjects*									
Subjects	**S42**	**S43**	**S44**	**S45**	**S46**	**S47**	**S48**	**S49**	**S50**	
Results	7	9	3	9	7	6	8	6	7	

As we can see, while 9 participants belonging to the High Intermediate group only judged 6-7 out of 10 PERF sentences as compatible with a future tense interpretation, the other 16 participants accepted 8-10 of these sentences. The performance of these 16 participants did not differ from the Advanced group ($t = 1.2457$, $P = 0.2481$). Even among the low intermediate participants, 3 of them performed at a level not significantly different from the Advanced group ($t = 0.7906$, $P = 0.4734$), judging 8-9 out of 10 PERF sentences with future adverbs as grammatical. Only one of the low intermediate participants, i.e., S44, rejected the majority of these grammatical sentences. Apart from this participant, the performance of the Low intermediate group resembled that of the High Intermediate group. Note that in both of these groups, even the participants who performed worse than the Advanced group (excluding S44 of the Low Intermediate group) performed above the chance level, with 6-7 acceptances ($t = 11.45$, $P < 0.001$).

Having looked at the results of the PERF-ONG, PERF-HAB and PERF-FUT conditions of Experiment 2, let us discuss what these results indicate.

7.2.1.6. Discussion

Recall that to apply a shifting operation to Russian PERF verbs, L2ers must at first assign an appropriate structure to them, namely that of telic *v*Ps (for accomplishment verbs) or Asp_QPs (for achievement verbs). As argued in Chapter 6, once L2ers assign one of these structures to a PERF verb, they should automatically prohibit this verb from encoding an ongoing event interpretation, given that in English too the verbs having these types of structure are incompatible with this interpretation.

Yet, as revealed by the results, the high and low intermediate participants, quite unexpectedly, misjudged 35% and 60% respectively of the PERF-ONG sentences as being grammatical, as opposed to 0% by the Russian controls and 10% by the advanced participants. If incompatibility with the present tense is indeed a universal property of non-stative *v*Ps – the assumption that we adapted in this dissertation – then it is surprising that the L2 participants made so many incorrect judgments. These data are especially puzzling in the case of the High Intermediate group, given that in Experiment 1, which tested structural knowledge of Russian PERF verbs, the high intermediate participants performed similarly to the native controls, with 2.5% of errors in the PERF-COM and 8% of errors in the PERF-UNC condition, as opposed to 0.5% and 3% of the native controls. But even in the case of the Low Intermediate group there is an increase in the error rate, from 12% in the PERF-COM and 31% in the PERF-UNC conditions of Experiment 1 to 60% in the PERF-ONG condition of Experiment 2.

How can we explain such a drastic drop in performance? The difficulties that the L2 participants of the lower proficiency groups experienced might be not so unexpected, given that the PERF verbs involved in Experiment 2, unlike those in Experiment 1, all had an idiosyncratic meaning, as I have pointed out earlier. Given their non-transparent morphological structure, it is not surprising that it takes L2ers longer to learn that these verbs, just like PERF verbs with lexically 'empty' preverbs, are also decompositional. What I find especially intriguing is that the greatest number of errors that both the High Intermediate and Low Intermediate groups exhibited in the PERF-ONG condition involved the verbs ***pere****čitajet* "**re**reads-PERF" and ***pere****delaet* "**re**does-PERF" which are decompositional in Russian in the same fashion as their counterparts are decompositional in English. It looks as if the L2 participants belonging to the High Intermediate and Low

Intermediate groups often ignored this fact and processed these verbs as morphological chunks, suggesting that the acquisition of the idiosyncratic forms is largely memory driven.[244]

Interestingly, if we remove the stimuli containing these two verbs from the analysis, the error rate decreases from 35% to 24% for the High Intermediate group and from 60% to 33% for the Low Intermediate group, as shown in Table 6.

Table 6 Group results: PERF-ONG conditions, acceptances (out of 3)

Condition	*Hi In (n=25)*			*Low In (n=9)*		
	Mean	*SD*	*%*	*Mean*	*SD*	*%*
*PERF-ONG	0.72	0.68	24	1	0.5	33

While the recalculated 33% of errors by the Low Intermediate group match 31% of errors that they produced in the PERF-UNC condition of Experiment 1, this is not true in the case of the High Intermediate group. This group produced 16% more errors in the PERF-ONG condition of Experiment 2 than in the PERF-UNC condition of Experiment 1. Once again, I believe that these 'extra' errors suggest that the high intermediate participants occasionally fail to properly decompose PERF verbs with idiosyncratic meaning, processing them as chunks instead.

It is important to note that the problem that the L2 participants of the lower proficiency groups experienced with idiosyncratic PERF verbs does not argue against the claim that L2ers are able to assign an appropriate structure to Russian perfective verbs – a conclusion that we have reached after discussing the results of Experiment 1. All it shows is that these participants have not realized yet that these verbs are decompositional or, alternatively, simply occasionally fail to process them as decompositional.[245] Once they overcome this problem, they should exhibit no difficulties in assigning an appropriate

[244] The data reported here suggest that at initial stages of acquisition L2 learners memorize idiosyncratic forms as chunks. They do so even with quite transparent forms which contain a clearly identifiable root such as ***pere****čitajet* "**re**reads-PERF" with *čita-* "read" as a root and ***pere****delaet* "**re**does-PERF" *dela-* "do" as a root. Given massive idiosyncrasies pertaining to Russian PERF verbs these results are not that surprising.

[245] It may also be that failure of L2ers to decompose some of Russian PERF verbs into a preverb-root sequence is due to some sort of processing limitation. It all depends on how one views the lexicon. For instance, if we assume that the lexicon contains both decomposed and composed forms of words with an idiosyncratic meaning, as suggested by some psycholinguists, then it may be that L2ers simply fail to retrieve an appropriate form from the lexicon. Having extra cues (as in Experiment 1) may help them to access a decompositional forms needed for the syntactic computation. I leave the question of whether extra cues may indeed facilitate processing of Russian idiosyncratic verbs in L2 learners to further research.

structure to them, given that they already do so for verbs that they deem to be decompositional.

Another indication that the mistakes produced by the high and low intermediate participants in the PERF-ONG condition are not due to these participants' inability to assign the correct structure to Russian PERF verbs (i.e., use the Russian telicity-assigning mechanism) but rather to their failure to recognize these verbs as containing a preverb comes from the fact that L2ers did not pay any attention to the aspectual status of internal arguments that appeared in this condition. Recall that all sentences tested in the PERF-ONG condition contained quantity internal arguments. Despite this fact, the L2ers often failed to compute the stimuli as telic, revealing that they do not use the English telicity-assigning mechanism. If they had done so, they would automatically know that they have a predicate incompatible with an ongoing event reading, given that in English, too, dynamic telic predicates are incompatible with this reading. This finding supports our conclusion that the L2 participants compute telicity status of Russian verbs based on the morphological make up of the verb rather than on the aspectual value of the internal argument. The reason why they fail to assign an appropriate structure to idiosyncratic PERF verbs is because they treat these verbs as non-decompositional.

While the failure to recognize that a given PERF verb is morphologically complex may seem insignificant at first glance, it leads to dramatic consequences. To see why let us elaborate on how in Russian lexical information may 'drive' the syntactic computation, and, hence, the aspectual interpretation of verbal predicates. As we have determined, one important component that is involved in syntactic computation of telicity is the telicity-assigning mechanism, which regulates specific syntactic conditions under which an Asp_QP can be properly licensed. Thus, in Russian, for an Asp_QP to be licensed, a morpheme carrying the [quantity] feature must merge onto the Asp_Q^o, unless the verb already carries this feature in the lexicon. From Experiment 1, we have established that English learners acquire this mechanism relatively early in the process of acquisition. Now what happens if a learner, instead of treating a given idiosyncratic PERF verb as consisting of a preverb and verbal root, treats it as a morphological chunk? Such a verbal chunk can only be computed as atelic, given that there is no aspectual morpheme that can

properly license an Asp_QP.[246] Knowledge of the Russian telicity-assigning mechanism will not preclude a L2 learner from building an inappropriate syntactic structure for such 'PERF' chunk. Quite the opposite, it will guide him/her to wrongly compute it as atelic. Moreover, if the L2er already knows that Russian morphologically bare verbs are not only atelic but also unbounded, he/she will most likely analyse this 'bare' verb as being syntactically complex, i.e., as containing an outer AspP filled by the Ø-morpheme.[247] In other words, instead of assigning a telic structure to a given PERF verb (a structure containing an Asp_QP), the L2er will misanalyse it as being atelic and unbounded (as lacking an Asp_QP and containing an outer AspP). As a result of this structural misanalysis, he/she will inaccurately interpret a given PERF verb, similarly to Russian unbounded verbs, as being compatible with an ongoing and habitual event interpretation.

Let me stress once again that it is not lack of syntactic knowledge that leads L2ers to occasional morpho-syntactic misanalyses of PERF verbs with an idiosyncratic meaning. It is lack of relevant lexical information. To be computed as telic, these verbs must be processed as decompositional, i.e., as containing a preverb that carries the [quantity] feature. Whether L2ers who misanalyse PERF idiosyncratic verbs as atelic lack these verbs' correct representation in the lexicon or simply access the wrong one remains to be determined. One thing is clear however: the information pertaining to telicity that is mediated by the lexicon takes longer to acquire or, alternatively, is harder to process, than purely syntactic information, just as suggested by Slabakova (2005, 2008).

Apart from the evidence presented earlier, the results of the PERF-FUT condition of Experiment 2 also support the conclusion that L2ers are able to assign a correct syntactic structure to the verbs that they recognize as decompositional. To see why this is so first note that the performance of the L2 participants on this condition was relatively high, as compared to the PERF-ONG condition. In particular, the advanced L2 participants performed close to the native controls, accepting the grammatical PERF

[246] Since in English and Russian accomplishment verbs acquire their telicity compositionally, I assume that L2ers will not treat memorized accomplishments as lexically perfectives, i.e., as verbs containing the [quantity] feature in their lexical entries. They might do so for achievements, however, transferring from English, where these verbs are lexically telic. If so, they might be able to obtain a telic reading of achievements, but not accomplishments, without decomposing them into prefix-root sequences.

[247] Of course, this explanation is sound only under the assumption that L2ers know that Russian morphologically bare verbs are unbounded. As will be reported in the next section, the subjects of the High and Low Intermediate groups knew this fact.

sentences with a future tense interpretation 90% of the time, with the high and low intermediates following fairly close behind, with 78.8% and 68.9% of correct responses. Although the performance of the High Intermediate and Low Intermediate groups was found to be statistically different from that of the native controls, these speakers, nonetheless, performed above the chance level, revealing their emerging knowledge of the Russian shifting operation.

While the group results on the PERF-FUT condition suggest that the L2ers are to various extents familiar with the Russian shifting operation, the individual results presented in Table 5 show that in the case of the participants of the High Intermediate and Low Intermediate groups there is no correlation between the degree of knowledge of the Russian shifting operation and the participants' proficiency level. Thus, 18 of the participants belonging to these two groups performed similarly to the advanced participants, judging 8-10 out of 10 PERF sentences as compatible with a future tense interpretation. These results suggest that some L2ers acquire Russian shifting operation earlier then others.

Returning to the claim made above, according to which L2ers are able to assign a correct syntactic structure to the verbs they deem to be decompositional, note that in order to shift the interpretation of the PERF verbs into the future, as the L2ers predominantly did in the PERF-FUT condition, they must have accurately parsed these verbs into a *v*P or As_QP structure. The reason why the L2 participants experienced less difficulty with PERF verbs tested in PERF-FUT condition, than those tested in PERF-ONG condition, is because these verbs, containing in their majority lexically 'empty' prefixes (i.e., 7 out of 10 verbs), were more easily identifiable as being decompositional.

What is intriguing, however, is that, despite the fact that the verbs used in the PERF-FUT condition predominantly contained lexically 'empty' prefixes, just like the verbs in Experiment 1, the performance of the L2 participants differs from that of the native controls more on this condition than in Experiment 1. There are several reasons that may explain why this is so. First, recall that in Experiment 1, a perfective sentence appeared in the context of three pictures which depicted the event encoded by this sentence either entirely (including its final point), or partially (excluding its final point). In any case, the first two pictures depicted the internal stages of the event. Given that in

Russian the internal stages of a telic (perfective) event are standardly expressed using the corresponding IMP verb, the visual stimuli may have, in fact, helped the participants to realize that the stimulus verb is decompositional, i.e., it is a prefixed counterpart of the IMP verb that describes first two pictures. In contrast, in Experiment 2, the participants had no such advantage. They had to recognize the decompositional nature of perfective verbs without relying on any extra cues.

Furthermore, although the number of stimuli was the same in both experiments, more verbs were tested in Experiment 2 than in Experiment 1, i.e., 30 vs. 20 aspectual pairs. Not only did Experiment 2 contain more verbs, but also 10 of the verbal roots appeared in 4 different morphological variants, as opposed to only two variants in Experiment 1. In particular, while in Experiment 1 each verbal root appeared once in the aspectually bare form and once in the prefixed form, e.g., *čitat'* and ***pro**čitat'* "read", 10 of the roots used in Experiment 2 not only appeared in these two forms but also in the secondary imperfective counterparts of these forms, e.g., *čitat'* "read-PI", ***pere**čitat'* "reread-PERF", *****čity**vat'** "read-?" and ***pere**čity**vat'** "reread-SI". Hence, it was much easier for the participants to keep track of the tested verbal roots in Experiment 1 than in Experiment 2. From this perspective, Experiment 2 presumably better reflects the L2 participants' implicit knowledge, as to which of tested perfective verbs are decompositional and which are not.

Another reason, why L2 participants performed somewhat worse on the PERF-FUT condition than in Experiment 1 could be due to negative transfer from English. Thus, it may be that when the L2 subjects failed to shift Russian perfective verbs into the future, they did assign an appropriate structure to them, but used the English and not Russian shifting operation. To see to what extent the L2 participants still used the English shifting operation, let us look at the results of the PERF-HAB condition, which precisely tested the compatibility of Russian PERF verbs with a habitual interpretation, and compare them with the results of the PERF-ONG condition.

The reason why we cannot consider the PERF-HAB results in isolation comes from the fact that the verbs used in this condition are morphologically non-transparent and, as such, may have been misanalysed by L2ers as non-decompositional, similarly to the verbs used in the HAB-ONG condition. By evaluating results of the PERF-HAB condition

relative to the results of the PERF-ONG condition, we should be able to rule out performance errors that are due to such misanalyses. Thus, assuming that participants treat non-transparent verbs used in the PERF-ONG condition in the same manner as non-transparent verbs used in the PERF-HAB conditions, we expect them to misanalyse roughly the same number of verbs in these two conditions. Any extra mistakes found in the PERF-HAB condition can be attributed to negative transfer from English. While the statistical analyses reported in the previous section indicate that the high and low intermediates performed significantly worse in the PERF-HAB than in the PERF-ONG condition, the number of extra errors that they made in the PERF-HAB condition did not differ significantly from those made by the advanced or even native subjects. These results suggest that although the high and low intermediate participants have not yet completely blocked transfer of the English shifting operation, the amount of this transfer is negligible.[248] This being said, we can still attribute roughly 11% and 18% of mistakes that the speakers of the High Intermediate and Low Intermediate groups produced in the PERF-FUT condition to negative transfer from English. If we increase the performance of the high and low intermediate subjects by these numbers, we would end up with 90% for the High Intermediate group and 87% for the Low Intermediate group. In a world without transfer, these participants are suddenly making a very negligible amount of errors, i.e., 10% and 13% respectively, as opposed to 1% by the native controls.[249]

To sum up, in this section we have looked at the results of Experiment 2 related to the Russian shifting operation. The results of the PERF-FUT condition revealed that 24 (out of 40) L2 participants have acquired the Russian shifting operation, performing similarly to the native controls. Apart from one low intermediate participant, the

[248] It would be interesting to retest the transfer of the English shifting operation, using transparent rather than idiosyncratic perfectives. The problem with idiosyncratic perfectives is that L2ers of the lower proficiency group often fail to assign a correct structure to them. Yet, only a correct structure is subject to a shifting operation, either Russian or English. Hece, by making more mistakes in assigning a correct structure, they reduce number of mistakes they could potentially make in the shifting operation. This makes our statistical analysis less reliable. If, after testing transparent perfectives, we will discover that L2ers of the lower proficiency group make significantly more mistakes then more proficient L2ers, it would be important to consider individual results in order to determine whether there is any correlation between acquisition of the Russian shifting operation and blocking of transfer (as some of the low and high intermediates acquire the Russian shifting operation ahead of others). Since we found only negligible amount of transfer, looking for a correlation is of no value. Given time and space limitations, I leave the retesting of transfer related to the shifting operation to further research.

[249] By the same logic, the performance of the Advanced group, increased from the 90% to 97%, becomes even more indistinguishable from natives.

performance of the other 15 high and low intermediates reveals that they too are on their way to complete acquisition of the Russian shifting operation. The higher rate of errors observed in the High Intermediate and Low Intermediate groups may be partially explained by these participants' failure to recognize some of the perfective verbs with a non-transparent idiosyncratic meaning as being decompositional and partially by negative transfer from English.

In terms of developmental sequence, the results of PERF-FUT conditions reveal that some L2ers acquire Russian shifting operation faster then others, while the results of the PERF-ONG condition, as compared to results of Experiment 1, reveal that L2ers acquire Russian PERF verbs that contain lexically 'empty' preverbs before PERF verbs that contain lexically 'filled' preverbs. Whereas it is not clear why some L2ers find the Russian shifting operation easier to acquire, it is not surprising that idiosyncratic verbs are much harder to acquire, given that their acquisition requires extensive memorization – a task that no doubt calls for additional time.

As I have argued in this section, the problems with idiosyncratic PERF verbs that L2ers of the High Intermediate and Low Intermediate groups experience are of a lexical and not syntactic type. Either these speakers have not yet learned the correct lexical entries of these verbs or they have problems in accessing them. This finding is consistent with the Interface hypothesis, which predicts that non-linguistic cognitive processes, e.g., memorisation of appropriate lexical items or/and their retrieval, can cause considerable problems for L2ers. In the case of the lexicon-syntactic interface, the native-like behaviour of the advanced participants indicates that L2ers are able to overcome problems (attested in comprehension of Russian idiosyncratic verbs) mediated at the lexicon-syntax interface, although one still must check whether these results are indeed non-coincidental. Thus, it might be that less frequently used idiosyncratic verbs are still problematic for advanced and even near-native speakers, given the vast idiosyncrasies in the Russian aspectual system, the acquisition and employment of which undoubtedly pose an extensive strain on memory and processing.

Having looked at the acquisition of the Russian shifting operation let us turn to the acquisition of the analytic future tense formation.

7.3. Blocking analytic future formation

In this section I will report on the part of Experiment 2 that tested whether or not L2ers with English as L1 succeed in blocking formation of analytic future with PERF verbs, as required by Russian.

7.3.1. Stimuli

Out of 100 sentences that were used in Experiment 2, 10 contained infinitival forms of PERF verbs together with the future tense auxiliary *byt'* "will". To enforce a future tense reading, these sentenced appeared with a future tense adverb, as in (15):

(15) *Zavtra Nina budet **po**stirat' svoju jubku.[250]
Tomorrow Nina will wash-PERF self dress.
"Tomorrow, Nina will wash her dress."

The PERF verbs tested in this condition, which we shall call the ANFUT (for analytic future) condition, are listed in (16). Note that 7 of these verbs contained a lexically "empty" preverb.

(16) ***is**peč'* "to bake"
***vi**platit'* "to pay off"
***za**deržat'* "to arrest"
***pod**sčitat'* "to calculate"
***po**stirat'* "to wash"
***za**šit'* "to saw up"
***na**risovat'* "to paint"
***po**stroit'* "to build"
***na**dut'* "to inflate"
***raz**rezat'* "to cut into pieces"

Just like the other PERF stimuli used in Experiment 2, the sentences used in the PERF-ANFUT condition contained only quantity internal arguments, either singular count nouns, e.g., *tort* "a cake", quantified nouns, e.g., *ves' kredit* "all credit", cardinal nouns, e.g., *3 novyx doma* "3 new buildings", or referential nouns, e.g., *svoju jubku* "self dress", *Petinu rubašku* "Petja's shirt". Recall that this was done to block interference from English in the domain of inner aspect.

[250] Readers are referred to Appendix D for the complete list of stimuli.

Before we turn to the predictions pertaining to the PERF-ANFUT condition, note that the English equivalents of the Russian stimuli are perfectly grammatical, as can be seen from the translation in (15).

7.3.2. Prediction

Once L2ers acquire the fact that the present tense forms of Russian perfective verbs receive a future tense reading, ideally they should stop allowing these forms to take the future tense auxiliary *byt'* "will", prohibiting two distinct forms to encode future. Let us see why.

From a purely theoretical point of view, knowledge of the Russian shifting operation implies that L2ers know that in Russian the $TP_{[+future]}$ that merges on top of a telic *v*P/Asp_QP can be licensed by a present tense morpheme. What they have to acquire is that only present tense morphemes can check this feature. The problem is that, in Russian, a $TP_{[+future]}$ can, in principle, be mapped onto the auxiliary *byt'*, although only when merging onto an IMP stem (i.e., a stem that contains an outer AspP or lacks any aspectual projection). This is where the real [+future] and coerced [+future] (obtained as a result of a shifting operation) diverge. The former, but not the latter can be spelled-out by *byt'*. The picture is further complicated by the fact that in English the $T^{o}_{[+future]}$ can be mapped onto the equivalent of *byt'*, i.e., *will*, regardless of the telicity value of the stem it appears with.

There are two parts of the puzzle that L2ers must acquire about Russian $TP_{[+future]}$: (1) that coerced [+future] can only be licensed by a present tense morpheme, or alternatively, that coercion happens after licensing, and (2) that in Russian non-coerced $TP_{[+future]}$ cannot merge onto a telic predicate. Failing to acquire either one of these requirements will result in non-native performance. It is conceivable to assume that L2ers acquire (1) together with acquiring the Russian shifting operation, presupposing that coercion happens 'after' licensing of syntactic structure cross-linguistically. They still, however, must acquire (2). And this is where we expect interference from English – a language that allows for a non-coerced $TP_{[+future]}$ to attach to a telic stem.

Only L2ers who have completely blocked transfer from English are predicted to match behaviour of native speakers. Keeping this prediction in mind, let us consider the results.

7.3.3. Results

Table 7 reports the rate of acceptances of the ungrammatical stimuli used in Experiment 2 that contained analytical forms of PERF verbs:

Table 7 Group results: PERF-ANFUT, acceptances (out of 10)

Controls (n=10)			*Advanced (n=6)*			*High Int (n=27)*			*Low Int (n=9)*		
Mean	*SD*	*%*	*Mean*	*SD*	*%*	*Mean*	*SD*	*%*	*Mean*	*SD*	*%*
0	0	0	2.67	2.58	27	5.68	1.49	57	7.89	1.29	79

As revealed by a one-way ANOVA the differences in performance between the four groups of participants were significant with $F = 55.47$; $df = 3, 46$; $P < 0.001$. The Scheffe's post-hoc test indicates that each group performed significantly different from the other three groups.

What is especially intriguing is that among all PERF conditions tested in Experiment 1 and Experiment 2, the PERF-ANFUT condition is the only condition where the performance of the 3 near-native participants (whom I had placed within the Advanced group to make this group bigger) differed significantly from the rest of the groups ($t = 14$, $P = 0.005$). As we can see from the Table 8 which reports the individual results on the PERF-ANFUT condition, the near-native participants, i.e., S11, S12 and S13, judged, on average, 0.3 out of 10 sentences with analytical PERFs as grammatical, almost matching the perfect score of native controls, i.e., 0 (out of 10). In contrast, the rest of the subjects within the Advanced group, i.e., S14, S15 and S16, performed at chance level, with 5 out of 10 acceptances. Note that the latter rate is very close to that of the high intermediates who, on average, accepted 5.7 of 10 sentences with analytical PERFs.

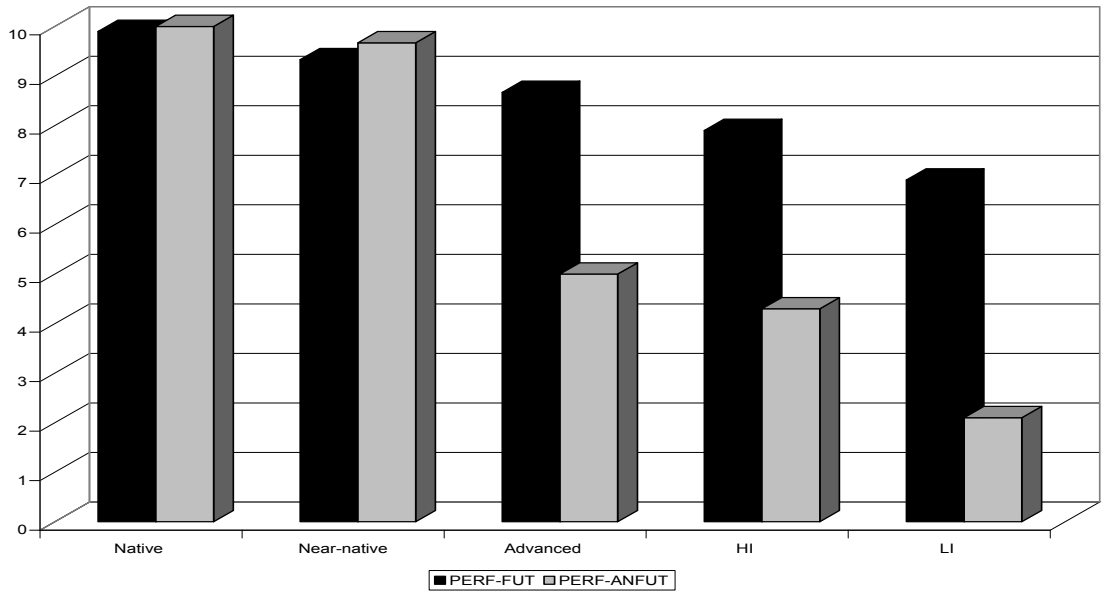
Table 8 Individual results: PERF-ANFUT, acceptances (out of 10)

Group	*Controls*									
Subjects	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**
Results	0	0	0	0	0	0	0	0	0	0
Group	*Advanced subjects*									
Subjects	**S11**	**S12**	**S13**	**S14**	**S15**	**S16**				
Results	0	0	1	5	5	5				
Group	*High Intermediate subjects*									
Subjects	**S17**	**S18**	**S19**	**S20**	**S21**	**S22**	**S23**	**S24**	**S25**	**S26**	**S27**
Results	2	6	4	8	8	8	5	5	6	7	8
Subjects	**S28**	**S29**	**S30**	**S31**	**S32**	**S33**	**S34**	**S35**	**S36**	**S37**	**S38**
Results	5	5	7	6	5	4	4	5	5	6	7
Subjects	**S39**	**S40**	**S41**								
Results	5	6	5								
Group	*Low Intermediate subjects*									
Subjects	**S42**	**S43**	**S44**	**S45**	**S46**	**S47**	**S48**	**S49**	**S50**		
Results	6	6	9	9	8	8	7	9	9		

Before we discuss these results in more detail, note that the performance of the L2 participants on PERF-ANFUT condition was much worse then their performance on the PERF-FUT condition which tested knowledge of the Russian shifting operation. This was especially true for the 3 advanced subjects as well as the high and low intermediate subjects who in the PERF-ANFUT condition provided accurate answers only 50%, 43% and 21% of the time respectively, as compared to 87%, 79% and 69% in the PERF-FUT condition.

Figure 3 shows the difference in terms of accuracy between the PERF-FUT and PERF-ANFUT conditions for each group:

Figure 3 Group results: PERF-FUT vs. PERF-ANFUT, accuracy



Importantly, in this table, I split the results of the Advanced group into two, dividing (as per the Cloze test) 3 near-native and 3 advanced participants. The results of a two-way ANOVA together with a Scheffe's post hoc test reveal significant condition effect ($F = 50.986$; $df = 1, 90$; $P < 0.001$) as well as a significant group effect ($F = 63.228$; $df = 4, 90$; $P < 0.001$). Moreover, they confirm that there is a significant interaction between group and condition ($F = 14.454$; $df = 4, 90$; $P < 0.001$), with the advanced, high intermediate and low intermediate participants scoring significantly worse than the native and near-native participants in the PERF-ANFUT condition.

To recap, the results on the PERF-ANFUT condition reveal that, apart from the near-native participants, all other L2 participants performed at chance level or worse. These results differ drastically from those on the PERF-FUT condition where even the high and low intermediate subjects performed well above chance level, exhibiting their knowledge of the Russian shifting operation. Let us discuss in detail what these findings mean.

7.3.4. Discussion

As I have argued earlier, to properly acquire how Russian TPs are related to aspect, not only must English learners of Russian realize that the coerced [+future] is licensed by the

present tense morphology – a fact that they, judging by their performance on the PERF-FUT condition, acquire with no particular difficulty, but also that merging of a non-coerced $TP_{[+future]}$ (licensed by the auxiliary *byt'*) onto a telic base is illegitimate in Russian. To put it differently, they must acquire that in Russian coerced and non-coerced [+future] are in complementary distribution.

As revealed by the results of the PERF-ANFUT condition in comparison to the PERF-FUT condition, the L2ers experience great difficulties with this requirement, with an error rate of 3% for the 3 near-native speakers, 43.6% for the 3 advanced speakers, 47% for the high intermediates and 66% for the low intermediates.[251] When it comes to the advanced, high and low intermediate participants, roughly half of the time they allow a non-coerced $TP_{[+future]}$ to be merged onto a telic *v*P. Only near-native L2ers succeed in overcoming this problem.[252]

Nonetheless, the fact that at least near-native speakers succeeded in attaining native-like competence related to analytic future suggest that ultimately L2ers are able to achieve absolute dissociation between coerced and non-coerced $TP_{[+future]}$.[253]

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[251] The way I obtained these percentages is by subtracting the percentages of non-transfer-like errors the L2ers produced in the PERF-FUT condition (0.3% for the near-natives, 6.4% for the advanced, 10% for the high intermediates and 13% for the low intermediates) from the percentages of errors they produced in the PERF-ANFUT condition (3.33% of the near-natives, 50% for the advanced, 57% for the high intermediates and 79% for the low intermediates). The reason, why transfer errors were excluded is that in Russian the shifted into habitual predicates (those containing a habitual-like outer AspP) can merge under TP headed by *byt'*.

[252] Interestingly, Russian children also go through a stage whereby they overgeneralize analytic future to telic verbs, suggesting that they too struggle with this requirement. According to Gvozdev (1961) inappropriate usage of PERFs in analytic future continues until 2;8. Yet, we find the same violation at age 3;0 in the child described in Turian and Altenberg (1991). The question is to what extent Russian children overgeneralize. Do they, similarly to our non-near-native L2ers, inappropriately use PERFs with *byt'* roughly half of the time? Given that most of the L1 studies on Russian are production studies, it is impossible to assess the extent of children's overgeneralization. This makes it impossible to establish whether the errors that L2ers make are caused by transfer from L1 or whether they are simply developmental errors or, perhaps, combination of both.

[253] It is unclear to me how exactly L2ers, or even Russian children, for that matter, realise that non-coerced $TP_{[+future]}$ cannot merge onto a telic predicate. In order to answer this question we should develop a more sophisticated theory of coercion. The immediate question that we have to address is whether coercion is a uniform phenomenon or whether there are different types of coercion. It looks as if the present tense coercion that we observe in Russian or in English is of a semantico-syntactic type, as it is triggered by a semantic requirement that prohibits 'simple' non-stative verbs to appear in present. We also have a pragmatic type of coercion, whereby the coercion is mediated by world knowledge. For instance, coercion of achievements into accomplishments is possible only for events that in the real world can take time to materialise. Interestingly, Russian coerced $TP_{[+future]}$ has 'pushed out' its non-coerced counterpart (for telic predicates), while the coerced accomplishments (from achievements) peacefully coexist with the true accomplishments, although two variants are semantically distinct (Rothstein 2004). Moreover, coercion of $TP_{[+present]}$ in Russian is a productive process, independent of context, given that it applies to all non-stative

7.4. Concluding remarks: L2 Acquisition of Russian perfective verbs

In conclusion, in this chapter we have looked at two experiments that tested L2 acquisition of Russian PERF verbs. While Experiment 1 tested the ability of English speakers learning Russian as L2 to switch the Telicity parameter from indirect to direct as well as to block negative transfer in the domain of inner aspect, Experiment 2 tested, among other things, their ability to acquire the Russian shifting operation as well as analytic future tense formation.

As a result of our investigation, we have discovered that English learners of Russian experience no particular problems in resetting the Telicity parameter from indirect to direct and in acquiring the Russian shifting operation, with only the low proficiency groups displaying some residual transfer.

In contrast, the acquisition of all nuances related to the Russian $TP_{[+future]}$ requires more strenuous efforts from L2ers. In fact, only near-native speakers acquire all intricacies of how TP is related to aspect. Unfortunately, without a comprehensive theory of coercion, as well as more profound research into the L1 acquisition of Russian TPs, we cannot explain what causes the relative delay in the L2 acquisition of these properties. The important question is: are the difficulties that L2ers experience of a purely morpho-syntactic nature? The stipulative answer to this question is: most-likely not, given that we have coercion involved. Assuming that coercion, at least partially, is mediated by semantics and pragmatics (Borer 2005), the computation of Russian $TP_{[+future]}$ implies involvements of other, non-syntactic, modules of grammar. This being said, I leave discovery of a more comprehensive explanation, than the one I provided here, to future research.

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predicates. In contrast, not all achievement can be coerced into accomplishments. Their ability to coerce is context dependent. Perhaps, Borer's (2005) approach to derivation would be the best way to handle coercion. Recall that Borer assumes that syntax generates few competitor structures, but, at the end of the day, it is semantics and pragmatics that decide which among these structures will be chosen. From the two structures, i.e., one that has a $T_{[+present]}$ mapped onto a present tense morpheme and one that has a $T_{[+future]}$ mapped onto a present tense morpheme, Russian chooses the latter, as the former violates the semantic restriction that prohibits a non-stative event to occur with present. The structure with the Ø-morpheme in the outer AspP (which is a structure obtained as a result of the English shifting operation) is illegitimate in Russian, given that Russian reserves the Ø-morpheme associated with outer aspect to atelic stems. Yet, even in Borer's system, we have to explain why the structure whereby a $T_{[+future]}$ is mapped onto *byt'* is ruled-out.

Overall, the results of Experiment 1 and the parts of Experiment 2 reveal that near-native speakers of Russian are capable of attaining native-like competence with Russian inner aspect as well as its intricate interrelation with TP. As for the inner aspect itself, even advanced and high intermediate learners behave indistinguishably from native controls. These findings suggest that English speakers acquiring Russian as L2 can, in principle, acquire the morpho-syntactic structure pertaining to Russian PERF verbs.

Having looked at L2 acquisition of Russian perfective verbs, let us examine acquisition of Russian IMP verbs.

Chapter 8: L2 Acquisition of Russian imperfective verbs

As has been outlined in Chapter 6, there are three things that English learners of Russian must acquire in order to attain native-like competence in the case of Russian non-stative imperfective verbs, i.e., activities (i.e., primary imperfectives) and syntactically complex accomplishments (i.e., secondary imperfectives). First, they must realize that Russian secondary imperfectives (SIs) have the same structure as English progressive accomplishments, with the SI suffix *-va* having the same functions in these verbs as *-ing* has in their English equivalents. Second, they must acquire the fact that Russian primary imperfectives (PIs) are atelic, unbounded predicates, i.e., that they lack an Asp_QP and contain an AspP. And finally, they must learn that, unlike English *-ing*, the SI suffix *-va* can only attach to telic (dynamic) stems.

As has been mentioned before, it was Experiment 2 that apart from testing acquisition of Russian perfective verbs also tested the acquisition of Russian imperfective verbs. The objective of this part of Experiment 2 was to test whether L2ers are able to acquire the structure of PI and SI verbs as well as proper distribution of *-va*.

To refresh your memory recall that in this experiment 50 participants (10 controls, 6 advanced, 25 high intermediate and 9 low intermediate) took a computerized grammaticality judgment task, where they had to indicate whether a sentence presented to them was grammatical or not.[254]

8.1. Acquisition of secondary imperfectives

In this section, I present the stimuli and report results of Experiment 2 pertaining to the L2 acquisition of Russian complex accomplishments, or, using Russian terminology, secondary imperfective verbs (SIs).

8.1.1. Stimuli

Out of 100 sentences used in Experiment 2, 10 contained the SI counterparts of the PERF verbs used in the PERF-ONG and PERF-HAB conditions, i.e., SI verbs containing the same root and the preverb as these PERF verbs.

[254] For more details on Experiment 2 consult section 7.2.1.

To test whether L2 participants treated SI verbs as compatible with the present tense, half of the SI sentences contained the adverb *v nastojaš'ij/dannɨj moment* "at this moment" which inflicts an ongoing event reading:

(1) V nastojaš'ij moment Petina komanda **pro**igr**ɨva**et match.
At this moment Petja's team is-loosing-SI match.
'At this moment, Petja's team is loosing a/the match.'

Another 5 of the sentences with SI verbs tested whether the L2 subjects allow these verbs to receive a habitual reading, as they should. To target a habitual reading, these sentences appeared with a habitual adverb, e.g., *často* "often", *vsegda* "always":

(2) Policija reguljarno **raz**iski**va**et etix prestupnikov.
Police regularly is-searching-for-SI these criminals.
'The police are regularly searching for these criminals.'

In (3) I list all the verbs that were tested in these two conditions, which we shall call the SI-ONG and SI-HAB conditions respectively. If we compare these verbs with their corresponding PERFs in (14) of chapter 7, we will see that it is adding *-va* that changes these verbs' interpretation from a future one to a present tense or habitual one.

(3) Verbs tested in the SI-ONG and SI-HAB conditions

SI-ONG

pere**čitɨva**et	"***pere*** + reads + ***va*** = is rereading"
pere**delɨva**et	"***pere*** + does + ***va*** = is redoing"
do**žariva**et	"***do*** + fries + ***va*** = is finishing frying"
pro**igrɨva**et	"***pro*** + play + ***va*** = is loosing"
pri**kuriva**et	"***pri*** + smoke + ***va*** = is lighting up (a thing that can be smoked)"

SI-HAB

pod**pisɨva**et	"***pod*** + writes + ***va*** = signs"
za**variva**et	"***za*** + cooks + ***va*** = prepares (tea)"
u**mɨva**et	"***u*** + washes + ***va*** = washes"
raz**ɨskiva**et	"***raz*** + searches + ***va*** = searches for"
u**govariva**et	"***u*** + speaks + ***va*** = persuades"

To block interference from English at the level of inner aspect, all sentences with SI verbs, just like their corresponding PERF sentences, contained quantity internal

arguments, either singular count nouns, e.g., *sigareta* "a/the cigarette", *kurica* "a/the chicken", cardinal nouns, e.g., *odna čaška čaja* "one cup of tea" or referential nouns, e.g., '*Voina i Mir'* "War and Peace", *svoi ruki* "her hands" and *eti prestupniki* "these criminals".[255]

8.1.2. Predictions

To properly acquire Russian SI verbs, L2ers must do two things (1) they must assign a telic structure to a prefixed stem that -*va* attaches to and (2) they must associate -*va* with the outer aspect projection.

What may facilitate L2 acquisition of -*va* by English speakers is realization that -*va*, just like English -*ing*, renders the base it attaches to unbounded in time, endowing it with an ongoing event as well as an iterative interpretation. In other words, once L2ers realize that -*va*, similarly to -*ing* carries the feature [unbounded], they will correctly associate this morpheme with the outer AspP. The question is whether they can establish this structural correspondence early in the process of acquisition, given that -*va* does not mimic the distribution of -*ing*. Recall that, contrary to -*ing*, -*va* does not attach to an atelic base. Moreover, except for 30 verbs, Russian -*va* selects for telic bases that have acquired a new meaning or new shades of meaning in the process of prefixation. This inconsistency in the data may delay the overall acquisition of Russian SI verbs.

Before we consider the results, note that L2ers who have successfully acquired Russian SIs are expected to allow them to receive an ongoing event or habitual interpretation. Let us see whether the L2 subjects who participated in Experiment 2 were able to do so.

8.1.3. Results

Table 9 reports the rate of acceptances of the grammatical sentences appearing in the SI-ONG and SI-HAB conditions by all four groups of participants:[256]

[255] The full list of the SI sentences can be found in Appendix F.
[256] For individual results, consult Appendix G.

Table 9 Group results: SI-ONG and SI-HAB conditions, acceptances (out of 5)

Condition	*Controls (n=10)*			*Advanced (n=6)*			*Hi In (n=25)*			*Low In (n=9)*		
	M	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*
SI-ONG	4.9	0.32	98	4.33	1.03	86	2.2	1.32	44	3	1.22	60
SI-HAB	4.8	0.42	96	4.83	0.41	96	3.72	0.84	74	3.67	0.87	74

The results of a two-way ANOVA reveal a group effect ($F = 23.119$; $df = 3, 92$; $P < 0.001$), with only the advanced L2 participants performing similarly to the native controls. There was also a condition effect ($F = 8.596$; $df = 1, 92$, $P = 0.004$), with the subjects performing better on the SI-HAB than on the SI-ONG condition. The interaction between groups and conditions was also found to be statistically significant ($F = 3.764$; $df = 3, 92$; $P = 0.013$).

As revealed by the Scheffe's post hoc test, only the high and low intermediate participants accepted significantly more sentences containing a SI verb in the SI-HAB than in SI-ONG condition. A paired t-test confirms this claim, with $t = 0.557$, $P = 0.591$ for the Control group, $t = 1$, $P = 0.363$ for the Advanced group, $t = 6.771$ and $P < 0.001$ for the High Intermediate group and $t = 2.3094$, $P = 0.0497$ for the Low Intermediate group. Interestingly, the high intermediate participants made a greater distinction between the SI-ONG and SI-HAB sentences than the low intermediate subjects. This surprising finding is due to the poorer performance of the high intermediate participants, as compared to the performance of the other participants, on the SI-ONG condition, as can be seen from Table 9.

As determined by a one-way ANOVA and Scheffe's post hoc test, in the SI-ONG condition, the performance of the high intermediates differed significantly from both the native controls and the advanced subjects ($F = 15.729$; $df = 3, 46$; $P < 0.001$). Interestingly, the Low Intermediate group performed similarly to the Advanced group as well as to the High Intermediate group. When it comes to the SI-HAB condition, the performance of both the high and low intermediates differed significantly from the native controls and the advanced L2ers ($F = 8.034$; $df = 3, 46$; $P < 0.001$).

Having seen the results of the SI-ONG and SI-HAB conditions, let us interpret what they mean from the perspective of ultimate attainment and transfer, specifically addressing the question as why the high intermediate participants rejected the perfectly grammatical SIs in their ongoing event interpretation at the higher rate than the less

proficient low intermediates. What can this behaviour tell us about their knowledge of Russian SIs?

8.1.4. Discussion

I would like to start my discussion by pointing out difficulties in interpreting the results related to SI verbs. Since these verbs contain both an inner and outer aspect projection, to compute their aspectual value properly L2ers must know all details of the Russian aspectual system. Not only do they have to single out *-va* as an aspectual morpheme associated with the outer aspect projection, but also they must compute the *v*P that *-va* attaches to as telic. This is to say that they must construct a structure that contains both aspectual projections.

There are, thus, two places where L2ers may go wrong while computing the aspectual value of Russian SIs. First, they may incorrectly compute these verbs' *v*Ps as atelic, failing to merge an Asp_QP (i.e., an inner AspP) into their structure. The question is how they would proceed next, assuming that they make this mistake, given that normally Russian does not allow for atelic *v*Ps to be inflected by *-va*. There are two alternatives. Either L2ers that misanalyse the stem of a SI verb as atelic will not parse *-va* as a separate morpheme and, consequently, interpret the entire verb as morphologically simple primary imperfective, or they will mistakenly allow *-va* to attach to an atelic base. In either case, they will obtain an atelic, unbounded verb that is compatible with both ongoing and habitual reading.

Another type of mistake that L2ers may potentially make is in the domain of outer aspect. Thus, they may correctly compute SI verbs' *v*P as telic (i.e., merge an Asp_QP), but fail to recognize that these verbs contain an aspectual suffix *-va* that carries the [unbounded] feature, and, as such, should occupy its own outer aspect projection. Failing to merge an outer AspP will cause L2ers to incorrectly compute the entire SI verb as telic. Given that telic events are incompatible with an ongoing event interpretation, L2ers who compute SI verbs as telic should disallow these verbs from receiving an ongoing event interpretation. Their willingness to accept these verbs with a habitual interpretation will depend on whether or not they have blocked transfer of the English shifting operation which permits simple accomplishments to be interpreted as habitual – the option not

available in Russian. L2ers who have blocked transfer from English will not allow SI verbs that they believe to be telic to be compatible with habitual, whereas those that have not completely blocked transfer will allow for these verbs to be interpreted as habitual.

Before we discuss the results of the SI-ONG and SI-HAB conditions, let me rule out the possibility of errors pertaining to the computation of inner aspect. This is especially imperative because, despite the fact that this type of errors would lead L2ers to assign an inappropriate structure to SI verbs, this would be undetectable in the SI-ONG and SI-HAB conditions, given that atelic, unbounded verbs (i.e., verbs having the structure that L2ers incorrectly assign to SIs) are also compatible with an ongoing and habitual interpretations.

But how can we tell whether the subjects computed the *v*Ps of the SIs tested in Experiment 2 as telic or atelic? This is where the results of the PERF-ONG condition become handy, as this condition looked at how the L2ers treat *v*Ps consisting of the same preverb-root sequences as the SIs tested in the SI-ONG condition. Recall that in the PERF-ONG condition, the participants of the High Intermediate and Low Intermediate groups wrongly allowed PERF stimuli to encode an ongoing event 35% and 60% of the time. As I have argued this non-native-like behaviour reveals that the high and low intermediate subjects have difficulties in recognizing preverb-root sequences with an idiosyncratic meaning as decompositional. But the SI-ONG condition contained the same idiosyncratic preverb-root sequences. Given this fact, we can assume that the same participants assigned an atelic, unbounded structure to roughly the same percentage of the SI verbs tested in the SI-ONG condition as they did to the PERF verbs tested in the PERF-ONG condition. This means that in the SI-ONG condition approximately 35% and 60% of correct responses by the high and low intermediate participants respectively may have come from these subjects assigning a wrong structure to the SI verbs tested in this condition. Interestingly, the percentage of accurate responses by the Low Intermediate group matched the 60% predicted from their failure to assign a telic, unbounded structure to SI verbs.

These results beg for at least two conclusions. First, it looks as if the low intermediate participants simply processed the SIs as chunks more than half of the time. Ironically, as an outcome of this misanalysis, they judged SIs as being compatible with an

ongoing event reading at the rate higher than the high intermediate participants. Nonetheless, since they provided correct responses for wrong reasons, we must conclude that they have not acquired Russian SI verbs yet. As for the high intermediates, although they produced an additional 9% of native-like responses from presumably assigning a correct structure to SI verbs, as opposed to 0% by the Low Intermediate group, this percentage is too low to claim that this group has acquired Russian SIs. It looks as if the high intermediates have just started to realize that SI verbs may have a structure of complex accomplishments with an ongoing event reading. Or to put it differently, they have just started to view *-va* as a morpheme that, like English *-ing*, can override the telicity value of the *v*P it attaches to. Interestingly, the high intermediate participants do not equate *-va* in SIs with English *-ing*, otherwise we would expect them to perform perfectly in the SI-ONG condition.[257]

Turning now to the SI-HAB condition, note that this is a condition where, in addition to the first type of mistake mentioned at the beginning of this section, we can observe the second type of mistake, which, on the surface, will also produce native-like judgments. Thus, as revealed by the results of the PERF-HAB condition – a condition that tested verbs with the same preverb-root sequences as the verbs tested in the SI-HAB condition – not only did the high and low intermediate subjects often miscompute verbs as atelic, but also they mistakenly allowed for the verbs that they correctly computed as telic to shift into habitual. This is why their error rate increased from 35% to 46% for the High Intermediate group and from 60% to 78% for the Low Intermediate group. Taking these mistakes into consideration, we can assume that in the SI-HAB condition approximately 46% and 78% of correct responses by the high and low intermediates respectively are due to these subjects assigning a wrong structure to SI verbs.

[257] Perhaps the reason why L2ers do not treat *-va* as being equivalent with *-ing* (as we would expect them to, in accordance with the FTFA hypothesis) is that by the time they get to *-va* (since, first, they have to acquire the fact that the idiosyncratic base that *-va* attaches is compositional and, thus, telic), they have already equated another morpheme with *-ing*. Thus, as we will see in the next section, the high intermediate and even the low intermediate participants treat PIs as morpho-syntactically complex predicates. This suggests that they know that the Ø-morpheme, just like English *-ing*, makes an atelic base compatible with an ongoing or habitual reading. What they must learn, however, while acquiring SIs, is that Russian has yet another morpheme that has the same function but a different distribution than *-ing*. It seems like by the time they get to *-va*, they are aware of these two factors: function and distribution. Consequently, they never equate *-va* with *-ing*.

These results suggest that, although the low intermediate subjects exhibited native-like behaviour, in allowing SI verbs to receive a habitual interpretation, 74% of the time, this behaviour was an artefact of a misanalysis rather than of native-like knowledge of Russian SI verbs. This is not so for the high intermediate participants, given that only about 46% of their correct responses may be attributed to misanalyses of SIs. We have an additional 26% to account for. Presumably these responses reflect the fact that the high intermediate subjects, at least sometimes, did assign an appropriate structure to SI verbs, i.e., that of telic, unbounded events. Given the low percentage we cannot claim, however, that the participants belonging to the High Intermediate group have acquired Russian SIs.

What is interesting is that the high intermediate participants assigned a correct structure to SI verbs significantly more often in a habitual context than in an ongoing context ($t = 6.771$, $P < 0.001$). This finding suggests that L2ers start acquiring the iterative function of *-va* before its ongoing event function. Although this may seem quite counterintuitive from the perspective of Russian native speakers who view an ongoing interpretation as a default interpretation of SIs in the present tense, it may not be so from the perspective of L2 learners. For one thing, the iterative function of *-va* is in some sense 'simpler'. All *-va* does it causes a reiteration of the basic telic event encoded by the *v*P. There is no need to override the telic value of the *v*P, as in the ongoing event reading of complex accomplishments. It may also be that once L2ers realize that Russian simple accomplishments are incompatible with a habitual reading, they are 'pressured' to use SI forms to encode such a reading. Or, most likely, they base this assumption on 30 aspectual triplets that Russian has – verbal forms in which SIs can indeed only express a habitual reading. Interestingly, when learning SIs in a classroom setting, L2ers are often presented with these rather exceptional SIs, and it is pointed out that the function of *-va* in these verbs is to turn a PERF verb into an IMP verb with a habitual meaning. All these factors may explain why L2ers first limit *-va* in SIs to encode iteration.

The fact that the performance by the advanced participants on the SI-ONG conditions did not differ significantly from their performance on the SI-HAB condition as well as from the performance by the native controls on the SI-ONG and SI-HAB conditions suggests that eventually L2ers are able to overcome their troubles with the ongoing function of Russian *-va* in SI verbs and attain full mastery of these verbs. These

results are not so surprising, given that acquisition of this knowledge is presumably based on positive evidence. It is the overall complexity of the Russian data that makes the extraction of relevant evidence time-consuming.

In sum, as revealed by the results of the SI-ONG and SI-HAB conditions of Experiment 2, L2ers experience particular difficulties in acquiring Russian SI verbs. Only at advanced stages of acquisition do they attain native-like competence with these verbs. What is particularly interesting is that acquisition of SI verbs does not proceed in a homogeneous fashion; instead, L2ers first learn a habitual reading of these verbs and only later their ongoing event reading. As argued above this acquisition pattern may be explained by the overall complexity of the Russian data (i.e., which may cause the delay in extraction of the relevant positive evidence) as well as by the morpho-syntactic complexity of SI predicates. Importantly, despite various intricacies related to SIs, L2ers are eventually able to acquire these verbs.

8.2. Acquisition of primary imperfectives

In this section, I present stimuli and report results of Experiment 2 related to acquisition of Russian activity verbs, or, using Russian terminology, primary imperfective verbs (PIs).[258]

8.2.1. Stimuli

30 of 100 sentences used in Experiment 2 contained PI verbs that had the same root as the PERF verbs used in the PERF-ONG, PERF-HAB, PERF-FUT and PERF-ANFUT conditions as well as the SI verbs used in the SI-ONG and SI-HAB conditions.

To test whether L2ers treat PI verbs as compatible with the present tense, 5 of the PI sentences contained the adverb *v nastojaš'ij/dannɨj moment* "at this moment" which imposes an ongoing event reading of the sentence. In Russian this is grammatical, as shown in (4):

[258] Importantly, the term *primary imperfective* (PI) refers to the bare IMP verbs that have an outer aspect projection in their structure, i.e., Russian activity verbs. The bare IMP verbs that lack this projection, i.e., Russian stative verbs, do not qualify to be labeled PIs.

(4) V nastojaš'ij moment Nina igraet s Olej.
At this moment Nina plays-PI with Olja.
'At this moment, Nina is-playing with Olja.'

Another 5 of the sentences with PI verbs tested whether L2ers allow these verbs to receive a habitual reading, as is possible. To target their habitual reading, these sentences appeared with a habitual adverb, e.g., *často* "often", *vsegda* "always", etc., as in (5):

(5) Kolja postojanno isčet novyx druzej.
Kolja continuously is-looking-for-PI new friends.
'Kolja continuously looks for new friends.'

To test whether L2ers mistakenly shift Russian PIs into the future, 10 of the stimuli sentences contained an adverbial that imposes a future tense reading, e.g., *čerez 5 minut* "in 5 minutes", *čerez ½ časa* "in ½ an hour", as in (6):

(6) *Čerez čas Kolja učit različnie jazɨki.
In hour Kolja learns-PI various languages.
'*In an hour, Kolja is learning various languages.'

Another 10 of the sentences tested whether L2ers are able to properly judge the analytical forms of PI as grammatical, as in (7):

(7) Teper' Olja budet stirat' odeždu tol'ko rukami.
Now Olja will wash-PI clothing only by hands.
'From now on, Olja will wash clothing only by hand.'

In (8) I list all the verbs that were tested in these four conditions, which we shall call the PI-ONG, PI-HAB, PI-FUT and PI-ANFUT conditions respectively:

(8) Stimuli used in the PI-ONG, PI-HAB, PI-FUT and PI-ANFUT conditions

PI-ONG		**PI-HAB**	
čitat'	"to read"	*pišat'*	"to write"
delat'	"to do"	*varit'*	"to cook"
žarit'	"to fry"	*myt'*	"to wash"
igrat'	"to play"	*iskat'*	"to search for"
kurit'	"to smoke"	*govorit'*	"to speak"

PI-FUT		PI-ANFUT	
gotovit'	"to cook"	*peč'*	"to bake"
pit'	"to drink"	*platit'*	"to pay"
est'	"to eat"	*deržat'*	"to hold"
učit'	"to learn"	*sčitat'*	"to count"
kormit'	"to feed"	*stirat'*	"to wash"
pet'	"to sing"	*šit'*	"to sow"
plit'	"to swim"	*risovat'*	"to paint"
krasit'	"to paint"	*stroit'*	"to build"
lečit'	"to cure"	*dut'*	"to blow"
rabotat'	"to work"	*rezat'*	"to cut"

To block interference from English at the level of inner aspect, the sentences with PI verbs were either intransitive or appeared with a non-quantity internal argument, i.e., bare plurals, e.g., *pis'ma* "letters", *novye druzja* "new friends", or mass nouns, e.g., *sup* "soup", *pivo* "beer".[259]

8.2.2. Predictions

Recall that L2ers who have attained native-like competence as far as Russian activities (i.e., PIs) are concerned, are predicted to never assign the simple structure to them, i.e., a structure that lacks an outer aspect projection, as this structure is not attested in Russian.

In terms of performance this means that they are expected to always treat Russian PIs as encoding an unbounded event, interpreting their morphologically present tense forms as having an ongoing event or habitual reading, but never a shifted future tense reading. To express future, they must use the analytic future forms, as these are the only possible forms for future PIs.

8.2.3. Results

Table 10 reports the rate of acceptances on the grammatical sentences appearing in the PI-ONG, PI-HAB, PI-ANFUT conditions and ungrammatical sentences appearing in the PI-FUT condition.[260]

[259] For the full list of the PI stimuli used in Experiment 2 consult Appendix F.
[260] The individual results are provided in Appendix G.

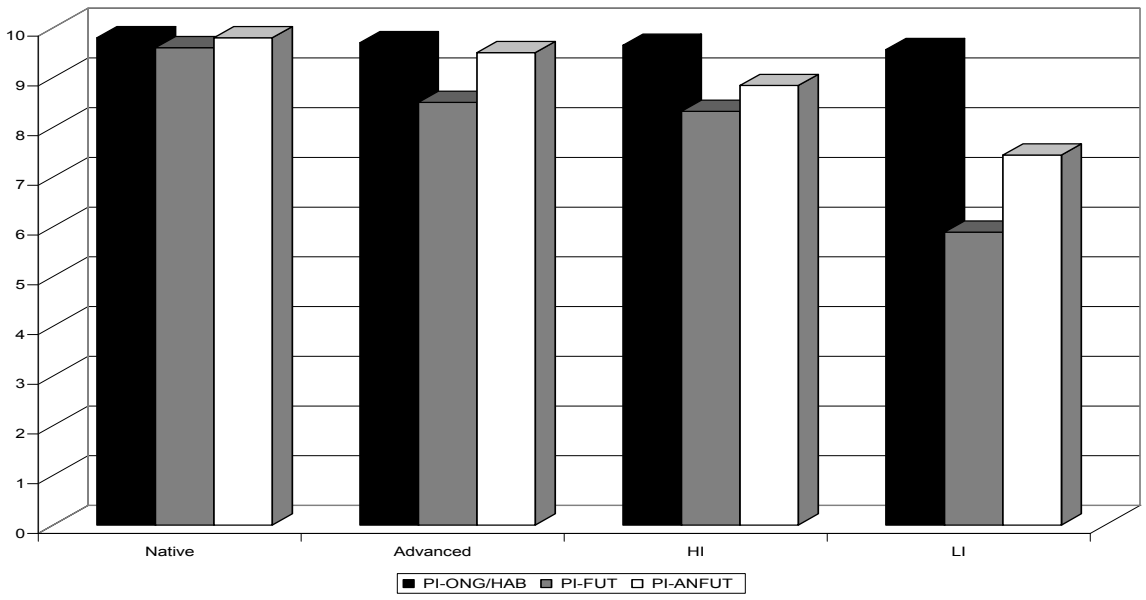
Table 10 Group results: PI-ONG, PI-HAB, PI-FUT and PI-ANFUT conditions, acceptances

Condition	*Controls (n=10)*			*Advanced (n=6)*			*Hi In (n=25)*			*Low In (n=9)*		
	M	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*
PI-ONG (out of 5)	4.9	0.32	98	4.83	0.41	97	4.8	0.41	96	4.8	0.44	96
PI-HAB (out of 5)	4.9	0.32	98	4.83	0.41	97	4.8	0.37	97	4.8	0.44	96
*PI-FUT (out of 10)	0.4	0.52	4	1.5	0.55	15	1.7	0.81	17	4.1	1.54	41
PI-ANFUT (out of 10)	9.8	0.42	98	9.5	0.55	95	8.8	0.8	88	7.4	0.88	74

A two-way ANOVA comparing the PI-ONG and PI-HAB conditions reveals no significant difference between these two conditions ($F = 0.013$; $df = 1, 92$; $P = 0.911$) or between groups ($F = 0.335$; $df = 3, 92$; $P = 0.800$). All participants performed at ceiling. The similarity between scores in these two conditions permits us to collapse them together, so we can compare the accuracy scores in these two conditions with the accuracy scores in the PI-FUT and PI-ANFUT conditions, which each contain 10 stimuli.

Figure 4 shows the difference in accuracy between, on one hand, the PI-ONG and PI-HAB conditions and, on the other hand, the PI-FUT and PI-ANFUT conditions.

Figure 4 Group results: PI-ONG/HAB vs. PI-FUT and PI-ANFUT, accuracy



The results of a two-way ANOVA that compared the performance of the participants on the PI-ONG/HAB, PI-FUT and PI-ANFUT conditions reveals a condition effect ($F = 40.750$; $df = 2, 138$; $P < 0.001$), with the L2 subjects scoring significantly higher at on the PI-ONG/HAB than on the PI-FUT and PI-ANFUT conditions. Moreover, their performance on the PI-ANFUT condition was significantly more accurate than on the PI-FUT condition. In addition to the condition effect, there was a group effect ($F = 37.301$; $df = 3, 138$; $P < 0.001$) and significant interaction between groups and conditions ($F = 8.933$; $df = 6, 138$; $P < 0.001$). As for a group effect, only the advanced participants performed similarly to the native controls in all three conditions. The performance by the high intermediate subjects did not differ significantly from the advanced subjects. Their performance in the PI-FUT condition, however, significantly diverged from native controls. The Low Intermediate group performed significantly worse than the other 3 groups in both the PI-FUT and the PI-ANFUT conditions.

Having looked at the results, let us turn to their discussion.

8.2.4. Discussion

The native-like performance of L2 participants on the PI-ONG and PI-HAB conditions suggests that they knew that Russian PI verbs, despite their seeming morphological simplicity, have a complex aspectual structure (i.e., one that contains an outer AspP). In other words, they have acquired the fact that Russian PI verbs can contain an aspectual Ø-morpheme that carries the [unbounded] feature.

The question is whether the L2ers know that this morpho-syntactic structure is the only structure that Russian PIs may have. Or do they mistakenly allow Russian activity verbs, like English activity verbs, to alternatively have a simple aspectual structure (i.e., one that lacks an outer AspP)? Recall that L2ers who assign a simple structure to Russian PIs were predicted to erroneously shift them into the future, thus allowing these verbs to be compatible with a future tense reading. To see to what extent the L2ers did so, consider the results of the PI-FUT condition.

As mentioned in the previous section, the high and low intermediate L2ers performed significantly worse on the PI-FUT condition than they did on the PI-ONG and PI-HAB conditions. In particular, their error rate was 17% for the High Intermediate

group and 41% for the Low Intermediate group, as opposed to 4% for the Native and 15% for the Advanced groups. These results suggest that although, on one hand, the high and low intermediate participants knew that Russian PIs have a complex structure (judging from their perfect performance on the PI-ONG/HAB conditions), on the other hand, they mistakenly allowed for these verbs to assume a simple structure (judging from the amount of errors that they produced in the PI-FUT condition). The high percentage of interference errors by the Low Intermediate group is particularly troublesome. It looks as if these subjects assigned an English-like (simple) structure to Russian PIs almost half of the time (as revealed by the results of the PERF-FUT condition).

Although performance of the high and low intermediates on PIs is characterised by structural optionality, whereby they assign either (complex) Russian or (simple) English structure to Russian PIs, the fact that the advanced speakers performed similarly to the native controls suggest that English learners of Russian eventually succeed in blocking transfer from L1.

The last piece of evidence about whether or not the L2ers have acquired all the intricacies of Russian PIs has to do with the future tense formation. Recall that since the present tense forms of PIs cannot receive a future tense reading, these verbs must appear with the auxiliary *budet* "will" in order to express future. As revealed by the results of the PI-ANFUT condition, only the Low Intermediate group – a group whose participants often assigned a shifted future tense interpretation to PIs – misjudged the analytic forms of PIs as ungrammatical at the rate significantly different from the native controls. It is the inability of the low intermediate subjects to block transfer from English (i.e., transfer of a simple atelic structure with no outer aspect) that caused them not only to mistakenly shift the present tense forms of Russian PIs into the future, but also to rule out the perfectly grammatical analytic future tense forms of PIs.[261] The reason why they produced significantly fewer errors in the PI-ANFUT condition, as compared to the PI-FUT condition (i.e., 26% as opposed to 41%), can be explained by the fact that these participants still often wrongly allow for verbs with a simple structure to appear in analytic future, as revealed by the results of the PERF-ANFUT condition. Since the latter

[261] Incidentally, the fact that the low intermediates often rejected these grammatical forms once again demonstrates that the acceptance bias that we have discussed in footnote 243 cannot be responsible for results of Experiment 2.

type of mistake yields responses that are, on the surface, native-like, it looks as if the low intermediate subjects produced fewer mistakes in the PI-ANFUT condition, than in the PI-FUT condition, whereas, in reality, the reverse is true.

In sum, the findings reported in this section indicate that although L2ers acquire the complex structure of Russian PIs early in the acquisition process, it takes them much longer to suppress negative transfer from English (of the English-like simple structure for bare activities). Consequently, they go through a stage where they allow Russian PIs to have either complex or simple structure, correctly allowing them to be compatible with an ongoing and habitual reading as well as to appear in the analytic future but also incorrectly shifting them into the future. The fact that the advanced participants have attained native-like competence indicates that L2ers are, nonetheless, able to overcome this problem of optionality and somehow block negative transfer from English.

8.3. Acquisition of *-va* attachment

In this section, I report results that tested whether or not the L2ers are capable of learning how to properly attach the SI suffix *-va*. Specifically, we will see whether L2ers can acquire the fact that this suffix can only attach to telic, as opposed to atelic, stems.

8.3.1. Stimuli

Out of 100 sentences, 10 contained non-existent forms of PI verbs inflected with *-va*.[262] These verbs have the same root as the PI verbs used in the PI-ONG and PI-HAB conditions, the PERF verbs used in the PERF-ONG and PERF-HAB conditions and the SI verbs used in the SI-ONG and SI-HAB conditions.

To compare these ungrammatical sentences with their grammatical counterparts with a telic base (i.e., SIs), 5 of these sentences appeared with an adverb *v nastojaš'ij/dannɨj moment* "at this moment" that imposes an ongoing event reading and another 5 with a habitual adverb, e.g., *často* "often", *vsegda* "always", as shown in (9).

[262] While the verbs derived by the suffixation of *-va* onto a telic/PERF stem have a special name, i.e., SIs, the non-existing verbal forms discussed in this section for obvious reasons lack this privilege. For the lack of a better term, I will call them PI-va verbs, reflecting the fact that they consist of an atelic base that has a phonological form similar to a PI and the suffix *-va*. Be aware, however, that by choosing this name, I do not imply that *-va* attaches on top of the *-Ø* morpheme that PIs contain. This term simply indicates that in these verbal forms *-va* is attached to an atelic *v*P identical to the *v*P of a corresponding PI verb.

(9) a. *V nastojaš'ij moment Nina igry**va**et s Olej.
At this moment Nina is-playing-? with Olja.
'At this moment, Nina is playing with Olja.'

b.*Kolja postojanno iski**va**et novyx druzej.
Kolja continuously is-looking-for-? new friends.
'Kolja is continuously looking for new friends.'

In (10) I list all the verbs tested in these two conditions, which we shall call the PI-va-ONG and PI-va-HAB conditions respectively:

(10) Stimuli verbs used in the PI-va-ONG and PI-va-HAB conditions

PI-va-ONG		**PI-va-HAB**	
*čity**va**t'*	"to read-PI-va"	*pišy**va**t'*	"to write-PI-va"
*dely**va**t'*	"to do-PI-va"	*vari**va**t'*	"to cook-PI-va"
*žari**va**t'*	"to fry-PI-va"	*my**va**t'*	"to wash-PI-va"
*igry**va**t'*	"to play-PI-va"	*iski**va**t'*	"to search for-PI-va"
*kuri**va**t'*	"to smoke-PI-va"	*govari**va**t'*	"to speak-PI-va"

Once again, all sentences with PI-va verbs contained non-quantity internal arguments. In fact, they contained the same internal arguments as the sentences with the corresponding PIs in the PI-ONG and PI-HAB conditions.

8.3.2. Predictions

One important restriction that L2ers must acquire in relation to the suffix *-va* is that, despite the fact that this morpheme has the same functions as English *-ing*, it cannot attach to atelic stems.[263] Since *-Ø* is an obligatory component of Russian activity verbs (i.e., of PIs), *-va*, competing for the same syntactic position, can never appear with these verbs. This means that in order to prohibit *-va* from attaching to activities, L2ers must

[263] Recall that not all telic/PERF stems allow for *-va* suffixation. This means that in order to achieve full mastery of Russian SIs, L2ers must realize that among telic stems only those that have a different meaning from the root they are derived from can be inflected with *-va*. Since the objective of this thesis is to test the morpho-syntactic knowledge of L2ers, I did not test whether they ever acquire this non-syntactic restriction. Thus, as has been discussed in the theoretical part of this dissertation, as far as syntax is concerned, *-va* can attach to any telic stem. It is at the interface level where things may go 'wrong'. If the output verb is not found in the encyclopaedia or, alternatively, if it has the same meaning as the corresponding primary imperfective (i.e., a bare imperfective that contain the same root), the derivation crashes. Note that learning an encyclopaedic list may indeed be a quite strenuous task for L2ers, as it requires extensive memorization.

stop assigning an English-like simple structure to Russian activities, recognizing them as morpho-syntactically complex predicates.

Only L2ers who have properly acquired Russian PIs are predicted to exhibit native-like behaviour in respect to *-va* attachment. Let us see whether the L2 subjects who participated in Experiment 2 judged the PI-va verbs as ungrammatical as opposed to their grammatical SI counterparts.

8.3.3. Results

Table 11 reports the rate of acceptances on the ungrammatical sentences that appeared in the PI-va-ONG and PI-va-HAB conditions.[264]

Table 11 Group results: PI-va-ONG and PI-va-HAB conditions, acceptances (out of 5)

Condition	*Controls (n=10)*			*Advanced (n=6)*			*High Int (n=25)*			*Low Int (n=9)*		
	M	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*	*M*	*SD*	*%*
*PI-va-ONG	0.1	0.32	2	0	0	0	1.2	1.12	24	2.78	2.22	56
*PI-va-HAB	0	0	0	0.33	0.52	7	2.4	0.71	48	3	2.06	60

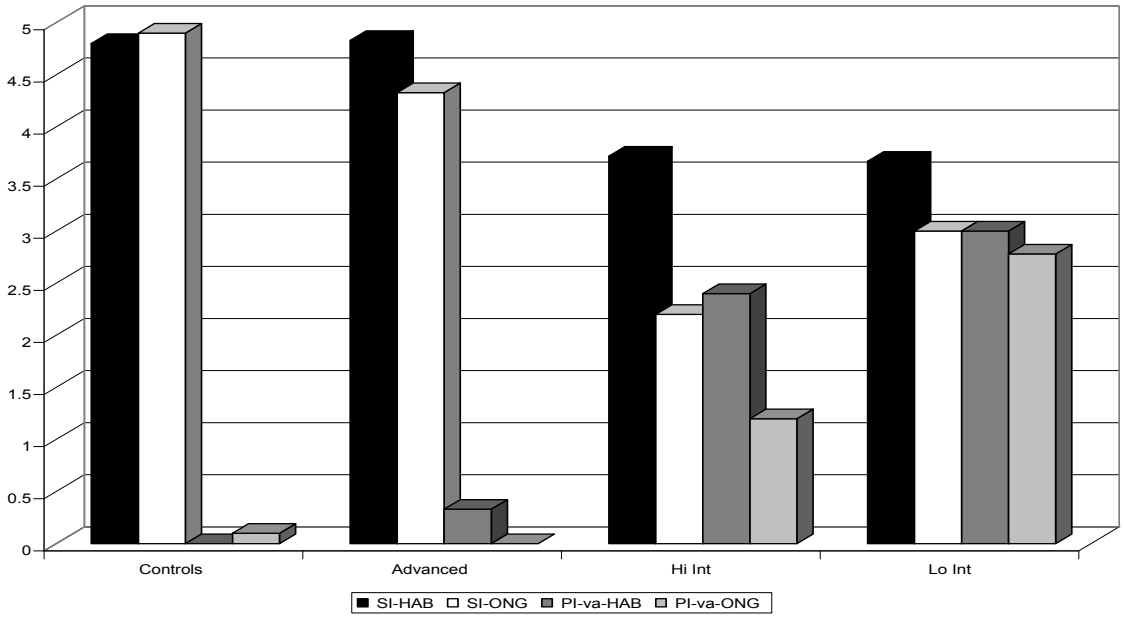
A two-way ANOVA revealed no condition effect ($F = 2.562$; $df = 1, 92$; $P = 0.113$), but a group effect ($F = 26.649$; $df = 3, 92$; $P < 0.001$). Although all L2ers treated verbs occurring in the PI-va-ONG and PI-va-HAB conditions in the same way, only the advanced speakers performed similarly to the native controls. The high intermediates performed significantly worse than the advanced participants, but significantly better than the low intermediate participants. No significant interaction between conditions and groups was found ($F = 2.009$; $df = 3, 92$; $P = 0.118$).

In order to establish whether the L2ers treated the PI-va verbs (i.e., verbs where *-va* is attached to an atelic base) differently from the SI verbs (i.e., verbs where *-va* is attached to a telic base) a two-way ANOVA was carried out comparing results of the PI-va-ONG, PI-va-HAB, SI-ONG and SI-HAB conditions. This test revealed a condition effect ($F = 86.85$; $df = 3, 184$; $P < 0.001$), with the L2 participants scoring higher on the SI-HAB condition than on the SI-ONG; on the SI-ONG condition higher than on the PI-va-HAB and, finally, on the PI-va-HAB condition higher than on the PI-va-ONG

[264] The individual results are provided in Appendix G.

condition. There was also a group effect (F = 4.227; df = 3, 184; P = 0.006), with low intermediates accepting on average more verbs inflected with -*va*, either primary or secondary imperfectives, than other three groups. Lastly, there was a significant interaction between conditions and groups (F = 17.154; df = 9, 184; P < 0.001). As can be seen from Figure 5, both the high and low intermediates, on average, accepted more verbs inflected with -*va* than did the advanced L2ers or the native controls.

Figure 5 Group results: SI-ONG, SI-HAB PI-va-ONG and PI-va-HAB, acceptances.

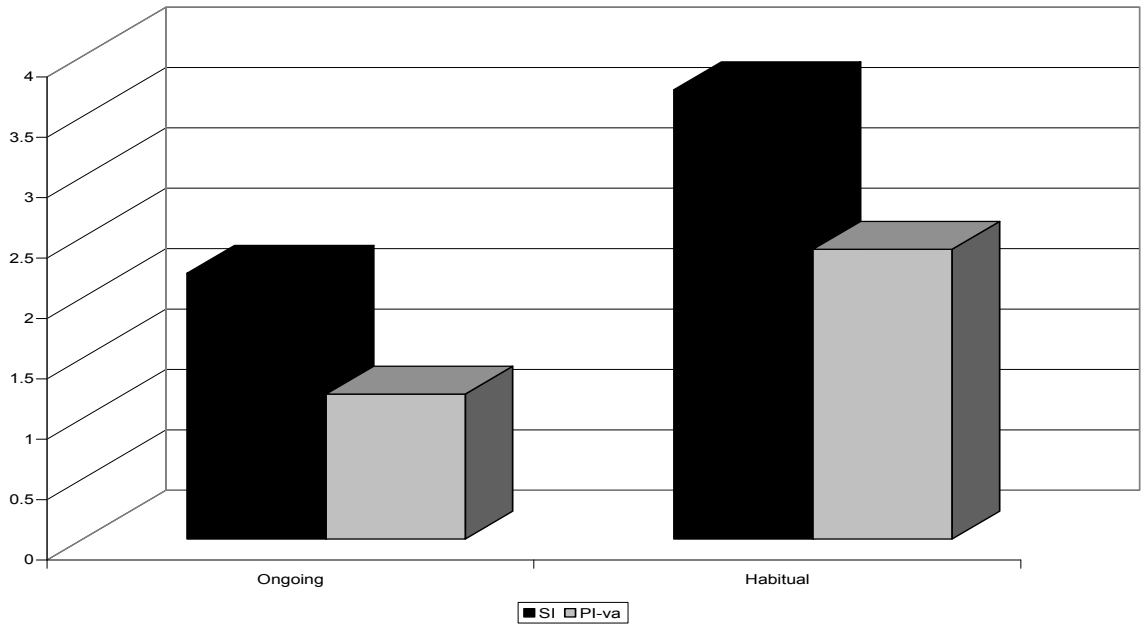


In fact, a one-way ANOVA performed on the acceptance scores of the low intermediates revealed no condition effect (F = 0.497, df = 3, 32, P = 0.687), suggesting that these participants treated verbs with -*va* in the same fashion, regardless of whether they contained a telic or atelic stem.

Interestingly, when it comes to the High Intermediate group, a one-way ANOVA detected a condition effect (F = 25.501, df = 3, 96, P < 0.001). According to a post hoc test the high intermediates accepted significantly more sentences in the SI-HAB condition than in the SI-ONG and PI-va-HAB conditions. Moreover, they accepted significantly fewer sentences in the PI-va-ONG condition than the other three conditions. There was no significant difference between the number of stimuli they accepted in the SI-ONG and PI-va-HAB conditions.

Let us look more closely at the performance of the High Intermediate group. Consider Figure 6, which focuses on the performance of this group of participants alone.

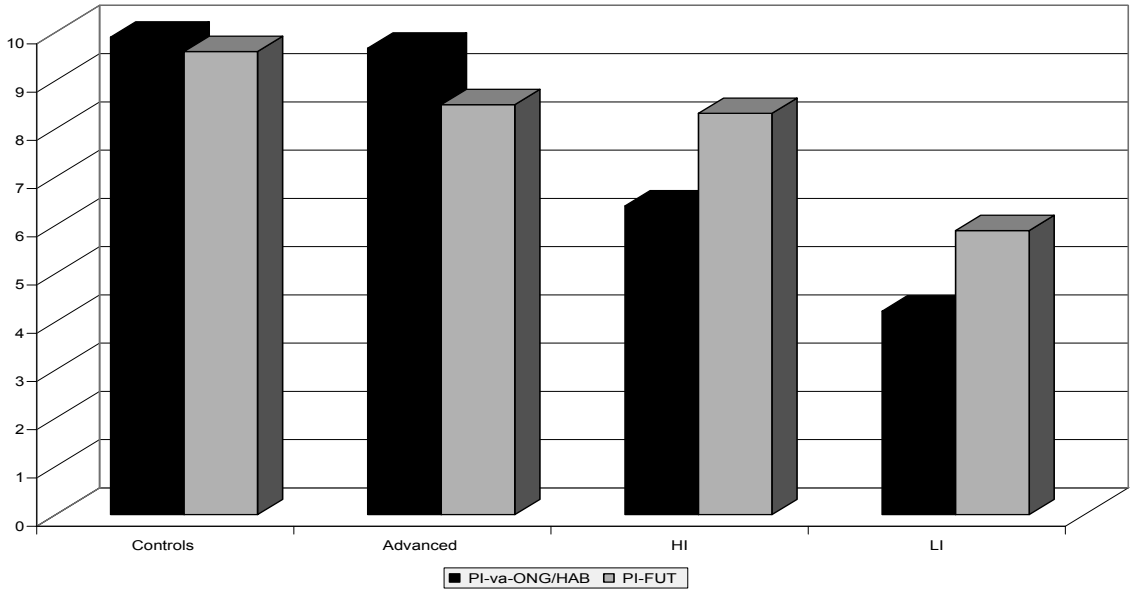
Figure 6 High Intermediate group: SI-ONG, SI-HAB PI-va-ONG and PI-va-HAB, acceptances.



As can be seen from this figure, on one hand, the high intermediates accepted significantly more verbs with *-va* (PI-va and SI verbs), in a habitual than in an ongoing context ($t = 17.58$, $P < 0.001$). On the other hand, they allowed *-va* to attach to a telic stem significantly more often than to an atelic stem ($t = 8.58$, $P < 0.001$). This 'double dissociation' will be important when we turn to the discussion of the results.

Before I conclude this section, it might be useful to compare the accuracy scores on the PI-va-ONG and PI-va-HAB conditions with the results of the PI-FUT condition – a condition that reveals to what extent the L2 participants assigned an (incorrect) simple structure to Russian PI verbs. Since the latter condition contained 10 rather then 5 stimuli, I collapsed the results of the PI-va-ONG and PI-va-HAB conditions together, as shown in Figure 7:

Figure 7 Group results: PI-va-ONG/HAB and PI-FUT, accuracy



A two-way ANOVA did not detect a significant distinction between subjects' performance on the PI-va-ONG/HAB and PI-FUT conditions ($F = 2.115$; $df = 1, 92$; $P = 0.149$). It revealed a group effect, however, ($F = 31.212$; $df = 3, 92$; $P < 0.001$), with only the advanced subjects performing similarly to the native controls. Both the high and low intermediate subjects scored significantly lower than the Advanced and Control groups. There was also a significant difference between the performances of the high and low intermediate subjects. The interaction between conditions and groups was found to be statistically significant ($F = 4.590$; $df = 3, 92$; $P = 0.005$).

Having considered the results of Experiment 2 pertaining to acquisition of the Russian suffix *-va*, let us discuss what these results mean.

8.3.4. Discussion

One obvious conclusion that emerges from the results of the PI-va-ONG and PI-va-HAB conditions is that, apart from the advanced participants, the other L2ers have not yet acquired the telicity restriction that *-va* imposes on its base. This is especially true of the low intermediates who allow *-va* to attach to atelic bases as often as they allow it to attach to telic bases. This behaviour of low intermediates is not particularly surprising, given that the same subjects allowed for PIs to have a simple *v*P structure, as revealed by the

results of the PI-FUT condition (see Figure 7), i.e., they often incorrectly allowed PI verbs to shift into the future which is possible only if these verbs have a simple *v*P structure. This means that the low intermediate participants have not realized yet that Russian PIs obligatory take the Ø-morpheme, leaving no position for *-va*. As for the high intermediates, the results of a t-test show that they allow *-va* to attach to a telic stem significantly more often than to an atelic stem ($t = 8.58$, $P < 0.001$). This behaviour displays their emerging knowledge of the restriction that *-va* imposes on its base. Once high intermediates stop allowing PI verbs to assume a simple structure (the mistake that they still make, judging from the PI-FUT condition), they are predicted to stop inflecting PIs with *-va*, reserving the outer aspect projection of activity verbs to the Ø-morpheme.[265]

What is especially interesting is that, as revealed by the t-test, the performance of the high intermediate subjects was condition-dependent. In particular, these participants accepted significantly more verbs with *-va* in a habitual than in an ongoing context, i.e., in the PI-va-HAB and SI-HAB conditions than in the PI-va-ONG and SI-ONG conditions ($t = 17.58$, $P < 0.001$). These results confirm our claim (reached on the basis of the results of the SI-ONG and SI-HAB conditions alone) that L2ers do not acquire *-va* in a homogeneous fashion. Rather they seem to hypothesize first that *-va* only has an iterative/habitual function, when in fact *-va* has two functions when appearing with a telic base and none when appearing with an atelic base (i.e., it cannot attach to a telic base).

Note that the default reading of SI verbs in the present tense (grammatical verbs that we used in the SI-ONG and SI-HAB conditions) is that of an ongoing event. In other words, it is quite counterintuitive for Russian native speakers to assume that SI verbs 'sound better' in habitual. Putting the intuition of native speakers aside, note that the hypothesis that L2ers postulate in respect to *-va* make perfect sense from the perspective of language acquisition. The acquisition of the iterative function might be in simpler, given that in this function *-va* does not override the telicity of the *v*P-base, but simply

[265] An alternative explanation is also possible. What if the high intermediates construct the correct structure for PI verbs – a structure containing the outer aspect projection, but believe that this projection can be occupied either by -Ø or by *-va*, just as in English the outer aspect projection can be occupied by -Ø or *-ing*. If so, this would be an instance of transfer, the recovery from which requires negative evidence: knowledge that PI-va forms are ungrammatical. Given that the role of negative evidence is controvertieal in L2 acquisition, I postulate that the proper acquisition of the syntactic structure of PIs suffices for learners to realize that PI-va verbs are illegitimate. Besides, as can be seen from Figure 7, the high intermediates often parse PIs as having a simple structure – a structure that lacks the outer AspP.

reiterates the basic telic event encoded by the *v*P. Moreover, there is no movement of DP from the [Spec, Asp_QP] into the [Spec, AspP]. Hence, the computational cost involved in an iterative reading is lower than that involved in an ongoing reading. Apart from computational costs, there may be other reasons why L2ers limit *-va* to its habitual function. As we have discussed in the section dedicated to acquisition of SI verbs, L2ers may be 'pressed' into using SI in habitual more often, since there is no other form that can express habituality in Russian. In addition, their false assumption that *-va* exclusively encodes a habitual reading can be due to inaccurate L2 instruction. Thus, when learning SIs in a classroom setting, L2ers are often presented with aspectual triplets as examples – verbal forms where a SI indeed can only express a habitual reading. While these examples clearly demonstrate the morphological distribution of *-va* (i.e., that *-va* can only attach to a prefixed perfective/telic stem), they mask the ongoing function of *-va*. In reality, SI verbs that are limited to a habitual context are quite rare. Fortunately, L2ers overcome the influence of this misleading instruction, as can be seen by native-like performance of the Advanced group. It seems that once high intermediates associate *-va* with the habitual function in SI verbs, they assume the same for the PI-va verbs – the verbs that are ungrammatical in Russian.

Curiously, when it comes to the function of *-va*, the high intermediates do not equate *-va* with *-ing*, given that *-ing* can encode both type of events, ongoing and habitual. Although they have built a system that is distinct from both L1 and L2, this system is nonetheless UG-constrained.[266] In fact, as far as *-va* is concerned, the grammar of high intermediates is identical to that of the speakers of Old Russian, as shown in Table 12. Thus, in Old Russian *-va* had one single function, namely habitual with either base. Perhaps this is why the few archaic forms of atelic verbs inflected with *-va* that we find in colloquial Russian have exclusively an iterative reading.

[266] Note that some native speakers of English disallow progressive forms with *-ing* to encode a habitual reading. In their system, only simple tense forms (with an outer AspP filled by the Ø-morpheme that is obtained at the end of semantic shift) have a habitual reading. Whether or not this prohibition is part of their syntactic or pragmatic knowledge remains to be determined. In essence, these speakers associate the coerced *-Ø* with a habitual and *-ing* with progressive function. The important thing to note is that, even if some of the L2 participants do associate *-ing* exclusively with an ongoing event reading, they do not extend this association to Russian *-va*. Since the high intermediate participants did not limit *-va* to an ongoing function, we must conclude that their interlanguage diverges not only from the target grammar of the Russian controls, but also from their L1 grammar.

Table 12 Distribution of the outer aspect morpheme

Stem	Function	English *-ing*	Modern Russian *-va*	Old Russian *-va*	L2er's *-va*
Telic	Ongoing	√	√	*	*
	Habitual	√/?	√	√	√
Atelic	Ongoing	√	*	*	*
	Habitual	√/?	*	√	√

Overall, the results of the PI-va-ONG and PI-va-HAB conditions reveal that, while L2ers experience problems in prohibiting *-va* from attaching to atelic bases, they eventually overcome this problem, attaining native-like competence with PIs and *-va*. The fact that their mistakes are not random, but rather UG compatible, supports the Full Access part of the FTFA hypothesis.

8.4. Concluding remarks: L2 Acquisition of Russian imperfective verbs

In this section we have examined the results of Experiment 2 pertaining to the acquisition of the morpho-syntactic structure of Russian dynamic imperfective verbs. There are a few important discoveries that these results unveiled.

First, English learners of Russian experience no problems in acquiring the syntactically complex structure of Russian PIs (i.e., a structure containing an outer AspP), with even the low intermediate subjects performing at ceiling. What they have trouble with, however, is acquiring the fact that Russian PIs, unlike English activities, cannot assume an 'alternative' syntactically simple structure (i.e., a structure lacking an outer AspP). It is this inability to block transfer of the English-like simple structure of activity verbs that causes both the high and low intermediate participants to inaccurately shift PIs into the future as well as to inflect them with the morpheme *-va*. Native-like behaviour of the advanced participants demonstrates, however, that L2ers eventually succeed in blocking transfer of this illicit (in Russian) structure.

Another important discovery is that it takes L2ers a considerable amount of time to acquire SI verbs, with only L2ers of the Advanced group attaining native-like competence. This finding is not a surprising one, given that the proper computation of SIs requires full mastery of the Russian aspectual system, since these verbs contain both

aspectual projections. The fact that highly proficient L2ers are able to perform at a native-like level indicates that, despite the morpho-syntactic complexity of SI verbs, L2ers can successfully acquire them.

Perhaps, the most intriguing results that we have examined in this section have to do with the acquisition pattern of the outer aspect suffix *-va*, whereby the high intermediate participant predominantly accepted *-va* in its habitual function rather than in its ongoing event function. Although their behaviour reveals that they have built a grammar divergent from both English (L1) and Russian (L2), this grammar is nonetheless UG-compatible. Moreover, the fact that these speakers allow *-va* to attach to a telic stem more often than to an atelic stem reveals their emerging knowledge of the restriction that *-va* imposes on the base it attaches to.

Overall, the results of Experiment 2 indicate that it takes English speakers learning Russian a considerable amount of time to attain native-like competence with Russian imperfective verbs. Nonetheless, as these results demonstrate, ultimate attainment of Russian IMPs is possible, with advanced L2ers assigning the same morpho-syntactic structure(s) to dynamic IMP verbs as native Russian speakers do. This means that, as far as the morpho-syntactic structure of Russian dynamic IMP verbs is concern, the grammar of advanced L2ers converges on the grammar of native controls.

Chapter 9: Putting everything together

In this dissertation we have investigated the acquisition of Russian aspect by English speakers, from the perspective of development and ultimate attainment. The main objective of this research was to establish whether or not English speakers acquiring Russian as L2 are able to attain native-like competence in Russian morpho-syntax related to aspect. By investigating ultimate attainment, I was interested in determining whether the non-native behaviour of English speakers reported in the pedagogical literature is due to L2ers' inability to acquire the appropriate morpho-syntax or due to other, not purely grammatical, components of Russian aspect.

The first and biggest part of this dissertation dealt with the morpho-syntactic structure of English and Russian aspect. The main premise that I have adapted in this thesis is that there are two syntactic projections that encode aspect: the *v*P-internal *inner* aspect projection (Asp_QP) and the *v*P-external *outer* aspect projection (AspP) (Smith 1997, Travis 1992, 2005, Depraetere 1995, Slabakova 2001, Borer 2005, Ramchand 2006, 2008 among many others). As we have established, while Asp_QP is only present in *telic* predicates (Borer 2005), AspP is only present in *unbounded* predicates. In other words, while Asp_QP encodes *telicity* (i.e., a change-of-state of the Undergoer argument), AspP encodes *unboundedness*.

To acquire the morpho-syntax of Russian aspect, English speakers must acquire all the differences between English and Russian pertaining to Asp_QP and AspP. Hence, in order to examine L2 acquisition of Russian, we had to determine, first, what those differences are.

In the course of our investigation, we have discovered that the set of elements that can license the merger of Asp_QP is universal. Thus, quantity DPs, path-goal PPs, or verbal bits such as preverbs or particles can trigger such a merger in both English and Russian. Following Borer (2005), I assumed that in order to be properly licensed, it is not enough to simply merge an Asp_QP into the structure but the head of this projection must acquire the [quantity] feature, either <u>directly</u> from a morpheme that merges into Asp_Q^o or <u>indirectly</u>, through the spec-head agreement, from a quantity DP in the [Spec, Asp_QP]. The third possibility that I assume, diverging from Borer, is that Asp_Q^o can also acquire

this feature from the lexicon, although this would be a case of non-computational telicity.[267] If Asp_Q^o fails to obtain the [quantity] feature, the derivation either undergoes coercion, whereby the illegitimate Asp_QP is 'removed' from the structure, or crashes.

While each language may choose a variable number from the array of elements that can trigger the merger of an Asp_QP, it can only choose one of the two telicity-assigning computational mechanisms: either direct or indirect. Of the two languages under investigation, only Russian has a direct mode of telicity assignment, whereby the Asp_Q^o acquires its [quantity] feature directly from a verbal prefix[268], or the suffix *-nu* that merges onto this head. Since English lacks an overt telicity marker, it uses the indirect mode of the telicity assignment, whereby the Asp_Q^o acquires its [quantity] feature indirectly from a quantity DP (i.e., singular count, definite plural or overtly quantificational Ns) in the [Spec, Asp_QP] via spec-head agreement. In this thesis, I proposed to view these two modes of telicity-assignment as two settings of what I call, following Slabakova (2001), the Telicity parameter. However, unlike Slabakova's proposal, the parameter I argue for is largely based on Borer's (2005) analysis, whereby I assume the same number of functional categories (within the *v*P) in both English and Russian.

To attain native-like competence in Russian inner aspect and, hence, correctly compute Russian PERF verbs as telic, English learners of Russian must reset the Telicity parameter from indirect to direct. L2ers who have acquired this parameter setting should focus on the morphological make up of a Russian verb (whether or not it contains a preverb or *-nu*) and not on the aspectual status of the verb's internal argument (whether or not it is a [quantity] argument). The purpose of Experiment 1 was to investigate whether L2ers can acquire Russian inner aspect, by resetting the Telicity parameter. Its results indicate that L2ers have no problem in acquiring Russian inner aspect. Even the performance of the less proficient low intermediate participants unveiled their emerging knowledge of the Russian telicity-assigning mechanism. And although their performance

[267] This option is proposed to account for verbs that do not acquire their telic value computationally, but are rather prespecified as telic in the lexicon, e.g., the majority of English achievements or Russian prefixless perfective verbs.

[268] Although the claim that all of the Russian preverbs are telicity markers is extremely controversial, I hope that I have convinced the readers that this is indeed so. See section 4.3.1 for a detailed discussion on this matter.

is not completely target-like (as it reveals residual transfer), it, nonetheless, shows that L2ers start resetting the Telicity parameter early in the acquisition process.

Another major difference between Russian and English that we have discovered during our investigation is that while both languages shift the interpretation of their non-stative *v*Ps and Asp_QPs when these projections merge directly under $T_{[+present]}$, in English this shift is into the habitual, while in Russian it is into the future. This is why in order to achieve full mastery of Russian verbs encoded by a *v*P/AspQP, i.e., Russian perfective (PERF) verbs, L2ers with L1 English must acquire the Russian shifting operation into the future and block the English shifting operation into the habitual. One of the objectives of Experiment 2 was to check whether L2ers are able to do so. The results of this experiment reveal that L2ers acquire the Russian shifting operation at a different pace, with some L2ers attaining this knowledge as early as at a low intermediate stage and others only at an advanced stage. Moreover, as we have discovered, L2ers are able to successfully block transfer of the English shifting operation, with High Intermediate and Low Intermediate groups displaying but a negligible amount of transfer.

When it comes to the acquisition of outer aspect, the first thing that English speakers must realize is that in Russian the outer AspP can be filled by two distinct morphemes, i.e., -Ø or -*va*, both of which carry the [unbounded] feature. They must also realise that these two morphemes are in complementary distribution. While -Ø can only attach to an atelic *v*P, -*va* can only attach to a telic *v*P. In addition, L2ers have to acquire the fact that each of these morphemes has two functions. It can yield an ongoing event or habitual interpretation. As revealed by results of Experiment 2, while L2ers acquire the Ø-morpheme as well as its ongoing and habitual functions early in the acquisition process, they experience more difficulties in acquiring the distribution as well as the two functions of -*va*, with only the advanced L2ers exhibiting native-like behaviour. This ultimate attainment of the advanced L2ers, however, demonstrates that English learners of Russian are able to acquire the morpho-syntax of Russian outer aspect.

Unfortunately, in order to achieve full mastery of Russian activity verbs, it is not enough to treat them as being compatible with a structure that contains an outer AspP filled by Ø-morpheme. As I have argued in the theoretical part of this thesis, one peculiarity of the Russian system is that while a telic *v*P can appear with an outer AspP

(producing a complex accomplishment) or without an outer AspP (producing a simple accomplishment), an atelic *v*P obligatorily contains an outer AspP (producing a complex activity). In other words, Russian lacks simple activities. Parsing primary imperfectives into the English-like simple structure will yield two types of mistakes: (1) L2ers will inaccurately shift these verbs, as non-stative *v*Ps, into the future, and (2) they will incorrectly inflect them with the suffix *-va* – a suffix that can only attach to telic *v*Ps. The question is whether L2ers can block transfer of the English-like structure. This question is especially imperative, given that Russian activities, containing an invisible Ø-morpheme, appear to be morphologically bare, just like their English counterparts are. This 'fake' simplicity of Russian activities may mislead L2ers into believing that these verbs, just like English activities, can be either simple or complex, with complex forms containing -Ø. As revealed by results of Experiment 2 this is precisely what L2ers of lower proficiency groups (high and low intermediates) do. Nonetheless, the fact that advanced L2ers no longer allow for Russian activities to be syntactically simple suggests that English learners of Russian eventually overcome their problem with optionality and completely block negative transfer from English.

The last distinction between English and Russian that we have talked about in this thesis concerns a tense projection. Thus, we have noticed that while in English a (non-coerced) $TP_{[+future]}$ can merge onto any verbal structure, in Russian it can only merge on top of a non-telic structure. This is why in English, unlike in Russian, the future tense auxiliary *will* that licences this projection can appear with achievements and simple accomplishments, but its Russian equivalent *byt'* cannot do so. Russian telic verbs acquire a future tense interpretation by shifting the interpretation of the present tense forms (i.e., by using the Russian shifting operation). As indicated by the results of Experiment 2, English learners of Russian experience great difficulties in disallowing a $TP_{[+future]}$ from merging onto a telic *v*P. Only near-native speakers recognize the illegitimacy of such a structure. This suggests that it takes L2ers a considerable amount of time to block transfer from L1 at the TP level.

Putting everything together, the two experiments that I have conducted reveal that only near-native learners of Russian (with L1 English) can perform at the level similar to native Russians. Since Russian near-native speakers are very difficult to come across, and

since they are far beyond any level of formal instruction, it is not surprising that teachers of Russian find the aspectual knowledge of their students to be non-native-like. As we have seen, there are many things that L2ers must acquire prior to exhibiting native-like performance. Nonetheless, the fact remains, English learners of Russian can properly acquire the morpho-syntax of Russian aspect.

Before I conclude this thesis I would like to focus, for a while, on the interlanguage of the advanced, high intermediate and low intermediate participants. As we have discovered, the interlanguage of these speakers is characterized by residual optionality. There are three places where we have observed what might be thought of as structural optionality: (1) the low intermediate participants use both the Russian and English telicity-assigning mechanism, allowing for either direct or indirect licensing of Asp_QP; (2) the high and low intermediate subjects assign either complex or simple structure to Russian activity verbs, depending on whether they process them as in Russian or as in English; (3) the advanced, high and low intermediate participants allow for either coerced (as they should do in Russian) or non-coerced (as they would do in English) $TP_{[+future]}$ to merge directly onto a telic *v*P/Asp_QP. How can we explain such optionality, especially for L2ers whose performance is well above chance level? For instance, how can we explain why low intermediate participants, whose performance reveals basic knowledge of the Russian telicity-assigning mechanism, still occasionally use the English mechanism as an alternative?

Technically, there are two ways to deal with optionality; both of them in terms of competition between alternative representations. One is to assume that the acquisition process itself is gradual and that the 'new' structure/setting emerges progressively, as the 'old' one disappears. This is essentially the approach advocated by the Variational Learning theory (Yang 2004, Legate & Yang 2007). Note that if we assume that acquisition of the L2 grammar is a gradual process, than we have to admit that competence of L2ers whose speech is characterized by optionality is non-target-like, i.e., incomplete in some sense, at least quantitatively. The problem with this sort of a gradual approach to acquisition is that it cannot account for the pattern we observed in the speech of the high and low intermediate participants with respect to Russian activity verbs. Recall that, on one hand, these subjects parsed activity verbs (in the context of

a present-tense or habitual adverb) into a complex structure in the same way the native speakers did. On the other hand, they allowed these verbs to assume incorrect simple structure (in the context of a future tense adverb). Hence, it looks as if they have acquired the relevant L2 structure and yet did not get rid of the L1 structure. We do not see a strict correlation between appearance of a target structure and disappearance of a non-target structure predicted by theories who view optionality as reflection of incomplete competence.

Alternatively, we can view structural optionality as a performance problem, whereby, in processing, an 'old' structure is accessed prior to a 'new' one. Structural optionality in L2 that we observed, whereby speakers use either a L2 or L1 grammar, can be explained in terms of insufficient activation of the L2 grammar along with insufficient inhibition of the L1 grammar. This approach to optionality can account for the data above. Thus, while the high and low intermediate participants access the L2 (complex) structure in the context of an ongoing event or habitual adverbial, obtaining Russian-like interpretation of activity verbs, they process these verbs incorrectly (as having a simple structure), when in a shifting context. It may be not coincidental that it is in this 'coerced' environment that L2ers experience problems with inhibiting their L1 structure. It is conceivable to assume that the processing of coerced structures incurs higher computational costs, given that coercion is a 'post-syntactic' operation (Jackendoff 1999). While I leave discovery of a precise processing system to psycholinguists, one thing is suggestive, namely, that the experimental data that we have encountered in this research suggest that structural optionality observed in proficient L2ers is due to unsuccessful processing rather than to unsuccessful acquisition.

I would like to conclude this thesis by pointing out some directions for further research. In the light of the Interface hypothesis, the next step in research on L2 acquisition of Russian aspect would be to examine whether there is a clear-cut dissociation between how English learners of Russian acquire and process morpho-syntactic information related to aspect versus aspectual information computation of which is mediated by non-linguistic cognitive modules, e.g., lexicon/encyclopaedia, pragmatics.

In this thesis we have shown that acquisition and/or processing of idiosyncratic verbs causes a delay in L2 acquisition. One needs to check whether the problem of

'lexicalization' of less frequently used Russian prefixed verbs, as well as their idiosyncratic meanings persists in the interlanguage of near-native speakers. Given massive idiosyncrasies in the system, lexical learning of Russian aspect is predicted to be extremely problematic (Slabakova 2005, 2008). Not only must L2ers memorize the whole range of Russian PERF verbs with idiosyncratic meaning, as well as what prefix has a purely aspectual function with what root, but also they must memorize which among telic verbs can appear with the suffix *-va* and which cannot. We are talking about hundreds of verbs with irregular morphology, idiosyncratic meanings and unpredictable distribution. There is a big chance that even near-native L2ers will not learn all of the relevant information and, hence, occasionally display non-native-like behaviour.

Perhaps the most challenging thing that L2ers must acquire in relation to the Russian aspectual system is all non-standard uses of IMP verbs. Recall that these uses are licensed by an intricate pragmatic knowledge, which L2ers may lack or, alternatively, may be unable to process. As claimed by Sorace (2004) and Sorace & Filiaci (2006), even near-native L2ers experience considerable difficulties with properties computed at the syntax-pragmatics interface. We, thus, predict that L2ers will struggle with non-standard uses of Russian IMPs. Of course this prediction needs to be tested. This is where the future of my research lies.

Be that as it may, one thing is clear: at least some English learners of Russian are able to attain native-like competence in Russian morpho-syntax related to aspect. Any difficulties that they experience with Russian aspect must lie outside of purely grammatical knowledge. Their syntax is spared from persistent non-convergence, just as predicated by the Interface Hypothesis.

APPENDIX A

The Cloze test

Егор засунул руки в карманы и оглянулся. Уже минуты две, едва он успел выйти из поезда, его не оставляло ощущение чужого взгляда. Почему-то совсем не страшное, скорее - завораживающее, резкое, как укол.

В самом начале эскалатора – [ ] в форме. Дальше - женщина [ ] сонным малышом. Ещё - молодой [ ], в яркой оранжевой куртке, [ ] плеером. Ничего подозрительного. Мальчик [ ] раз глянул назад и [ ] по ступенькам. Он выскочил [ ] полуоткрытые двери, и почувствовал [ ] пронизывающий холод вдруг навалился [ ] него. Его волосы, ещё [ ] после бассейна мгновенно обледенели. [ ] надвинул капюшон глубже, и [ ] останавливаясь, нырнул в переход. [ ] тревоги преследовало его. Он [ ] раз оглянулся, но за [ ] никто не следовал. Мужчина [ ] плеером остановился возле ларька, [ ] с сонным малышом шла [ ] трамвайной остановке, военный вообще [ ] вышел ещё из метро.

Егор шёл, всё убыстряя [ ]. Откуда-то звучала музыка - тихая, [ ] слышная, но удивительно приятная. [ ] звала, музыка торопила. Егор [ ] из перехода и на [ ] остановился, глотая холодный воздух. [ ] остановке подъезжал троллейбус. Можно [ ] проехать одну остановку, почти [ ] самого дома... Мальчик подошёл [ ] троллейбусу. Несколько секунд троллейбус [ ] с открытыми дверями, потом [ ] закрылись, и троллейбус медленно [ ] от остановки. Егор посмотрел [ ] вслед. Музыка становилась все [ ], заполняя собой весь мир. [ ] предлагала идти пешком. Егор [ ] пешком...

Он прошёл всего [ ] метров, как гостиница перестала [ ] его от ветра. Порывы [ ] почти заглушилали мелодию. Мальчик [ ]. Очарование продолжалось… Зато вернулось [ ] чужого взгляда. Егор оглянулся - [ ] остановке подходил ещё один [ ]. А ещё, рядом шёл [ ] с плеером. Мальчик побежал... [ ] зазвучала с новой силой. Егор уже [ ] различать слова... мог, но [ ] хотел.

Сейчас правильнее [ ] бы пойти по проспекту, [ ] ярко освещённых магазинов, рядом [ ] припоздалыми прохожими, на виду [ ] несущихся машин. Но музыка [ ] в подворотню. Здесь было [ ] темно - только у стены [ ] две тени. Егор видел [ ] как сквозь туман.

Музыка грянула ещё раз и торжествующе смолкла. Мальчик почувствовал, как обмякает его тело. Он весь был в поту, ноги не держали, хотелось сесть на скользкий, покрытый обледенелой грязью тротуар.

APPENDIX B

1. The stimuli sentences with imperfective verbs:

(i) With bare plurals

(1) Петя гладил рубашки.
Petja gladil rubaški.
Petja ironed-IMP shirts-PL.

(2) Оля красила стены желтой краской.
Olja krasila steny žjoltoj kraskoj.
Olja paint-IMP walls-PL with yellow paint.

(3) Маша писала письма.
Maša pisala pis'ma.
Masha wrote-IMP letters-PL.

(4) Петя рисовал картины.
Petja risoval kartiny.
Petja drew-IMP picture-PL.

(5) Нина жарила котлеты.
Nina žarila kotlety.
Nina fry-IMP hamburgers-PL.

(ii) With mass nouns

(1) Петя делал домашнее задание.
Petja delal domašnee zadanije.
Petja did-IMP homework.

(2) Маша готовила борщ.
Maša gotovila borč'.
Masha prepared-IMP borscht.

(3) Петя пил вино.
Petja pil vino.
Petja drank-IMP wine.

(4) Петя резал мясо.
Petja rezal mjaso.
Petja cut-IMP meat.

(5) Петя варил рис.
Petja varil ris.
Petja cooked-IMP rice

(iii) <u>With quantity plurals</u>

(1) Маша чистила свои зимние сапоги.
Maša čistila svoi zimnie sapogi.
Masha cleaned-IMP her winter boots.

(2) Петя читал рассказы Стивена Кинга «Нона» и «Туман».
Petja čital rasskazy Stivena Kinga «Nona» i «Tuman».
'Petja read-IMP stories-PL by-Stephen King "Nona" and "The Mist".'

(3) Маша шила два платья.
Maša šila dva platja.
'Masha saw-IMP two dresses-PL.'

(4) Маша стирала свои юбки.
Maša stirala svoi jubki.
'Masha washed-IMP her skirts-PL.'

(5) Строители строили дома N8 и N10 на улице
Stroiteli stroili doma N8 i N10 na ulice
'Construction-workers built-IMP buildings N8 and N10 on Gorky
Горького.
Gor'kogo.
street.'

(iv) <u>With singular nouns</u>

(1) Петя чинил стул.
Petja činil stul.
Petja fixed-IMP a/the chair.

(2) Оля ела будерброд.
Olja ela buterbrod.
Olja ate-IMP a/the sandwich.

(3) Петя курил сигару.
Petja kuril sigaru.
Petja smoked-IMP a/the cigar.

(4) Маша пекла пирог.
Maša pekla pirog.
Masha baked-IMP a/the pie.

(5) Маша вязала шарф.
Maša vjazala šarf.
'Masha knitted-IMP a/the scarf.'

2. The stimuli sentences with perfective verbs:

(i) <u>With bare plurals</u>

(1) Петя **по**гладил рубашки.
Petja **po**gladil rubaški.
Petja ironed-PERF shirts-PL.

(2) Оля **по**красила стены желтой краской.
Olja **po**krasila steny žjoltoj kraskoj.
Olja paint-PERF walls-PL with yellow paint.

(3) Маша **на**писала письма.
Maša **na**pisala pis'ma.
Masha wrote-PERF letters-PL.

(4) Петя **на**рисовал картины.
Petja **na**risoval kartiny.
Petja drew-PERF picture-PL.

(5) Нина **по**жарила котлеты.
Nina **po**žarila kotlety.
Nina fry-PERF hamburgers-PL.

(ii) <u>With mass nouns</u>

(1) Петя **с**делал домашнее задание.
Petja **s**delal domašnee zadanie.
Petja did-PERF homework.

(2) Маша **при**готовила борщ.
Maša **pri**gotovila borš'.
Masha prepared-PERF borscht.

(3) Петя **вы**пил вино.
Petja **vy**pil vino.
Petja drank- PERF wine.

(4) Петя **на**резал мясо.
Petja **na**rezal m'aso.
Petja cut-PERF meat.

(5) Петя **с**варил рис.
Petja **s**varil ris.
'Petja cooked-PERF rice.'

(iii) <u>With quantity plurals</u>

(1) Маша **по**чистила свои зимние сапоги.
Maša **po**čistila svoi zimnie sapogi.
Masha cleaned-PERF her winter boots.

(2) Петя **про**читал рассказы Стивена Кинга «Нона» и «Туман».
Petja **pro**čital rasskazy Stivena Kinga «Nona» i «Tuman».
Petja read-PERF stories-PL by-Stephen King "Nona" and "The Mist".

(3) Маша **с**шила два платья.
Maša **s**šila dva platja.
Masha saw-PERF two dresses-PL.

(4) Маша **по**стирала свои юбки.
Maša **po**stirala svoi jubki.
'Masha washed-PERF her skirts-PL.'

(5) Строители **по**строили дома N8 и N10 на улице
Stroiteli **po**stroili doma N8 i N10 na ulice
'Construction-workers built-PERF buildings N8 and N10 on Gorky
Горького.
Gor'kogo.
street.'

(iv) <u>With singular nouns</u>

(1) Петя **по**чинил стул.
Petja **po**činil stul.
Petja fixed-PERF a/the chair.

(2) Оля **с**ъела будерброд.
Olja **s**'ela buterbrod.
Olja ate-PERF a/the sandwich.

(3) Петя **вы**курил сигару.
Petja **vy**kuril sigaru.
Petja smoked-PERF a/the cigar.'

(4) Маша **ис**пекла пирог.
Maša **is**pekla pirog.
'Masha baked-PERF a/the pie.'

(5) Маша **с**вязала шарф.
Maša **s**vjazala šarf.
Masha knitted-PERF a/the scarf.

3. Distractors

(1) Петя гладил **брюки.**
Petja gladil **brjuki.**
‘Petja ironed-IMP **pants**-PL.’

(2) Оля красила стены **синей** краской.
Olja krasila steny **sinej** kraskoj.
‘Olja paint-IMP walls-PL **with blue** paint.’

(3) Маша **прочитала** письма .
Maša **pročitala** pis’ma
‘Masha **read**-PERF letters-PL.’

(4) Петя **продал** картины.
Petja **prodal** kartiny.
‘Petja **sold**-PERF picture-PL.’

(5) Нина жарила **куриные** **крылышки**.
Nina žarila **kurinye** **krylyški**.
Nina fry-IMP **chicken** **wings**-PL.

(6) Петя делал **зарядку**.
Petja delal **zarjadku**.
‘Petja did-IMP **physical exercises**.’[269]

(7) Маша **пролила** борщ.
Maša **prolila** borš’.
‘Masha **spilled**-PERF borscht.’

(8) Петя выпил **чай**.
Petja vypil **čaj**.
‘Petja drank-PERF **tea**.’

(9) Петя нарезал **хлеб**.
Petja narezal **xleb**.
‘Petja cut-PERF **bread**.’

[269] This NP is mass in Russian.

(10) Петя **помыл** рис.
Petja **pomyl** ris.
'Petja **washed**-PERF rice.'

(11) Маша почистила свои **летние** **туфли**.
Maša počistila svoi letnie tufli.
Masha cleaned-PERF her **summer** **shoes**.

(12) Петя читал рассказы Стивена Кинга «**Грузовики**» и «**Серое**
Petja čital raskazy Stivena Kinga **«Gruzoviki»** i «**Seroe**
Petja read-IMP stories-PL by-Stephen King "**Trucks**" and "**Gray**
Вещество».
Veš'estvo».
Matter".

(13) Маша шила **три** платья.
Maša šila **tri** platja.
Masha saw-IMP **three** dresses-PL.

(14) Маша постирала свои **платья**.
Maša postirala svoi **platja**.
Masha washed-PERF her **dresses**-PL.

(15) Строители строили дома N8 и N10 на улице
Stroiteli stroili doma N8 i N10 na ulice
Construction-workers built-IMP buildings N8 and N10 on **Pushkin**
Пушкина.
Puškina.
street.

(16) Петя починил **стол**.
Petja počinil **stol**.
Petja fixed-PERF **a/the table**.

(17) Оля ела **яблоко**.
Olja ela **jabloko**.
Olja ate-IMP **a/the apple**.

(18) Петя **купил** сигару.
Petja **kupil** sigary.
Petja **bought**-PERF a/the cigar.

(19) Маша **нарезала** пирог.
Maša **narezala** pirog.
Masha **cut**-PERF a/the pie.

(20)	Маша	вязала	**носки**.
	Maša	vjazala	**noski**.
	Masha	knitted-IMP	**(the) socks**.

APPENDIX C

Experiment 1

Table 1 Individual results: Native controls, acceptances (out of 20)

	Native controls									
Condition	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
PERF-COM	20	20	20	20	20	19	20	20	20	20
PERF-UNCOM	0	0	0	0	0	0	1	1	2	2
IMP-COM	20	20	20	0	19	1	19	19	19	18
IMP-UNCOM	20	20	20	20	20	20	20	20	20	18

Table 2 Individual results: Advanced L2ers, acceptances (out of 20)

	Advanced subjects				
Condition	S1	S2	S3	S4	S5
PERF-COM	20	20	20	20	18
PERF-UNCOM	0	2	1	1	1
IMP-COM	2	19	20	0	2
IMP-UNCOM	19	20	20	18	20

Table 3 Individual results: High Intermediate L2ers, acceptances (out of 20)

	High Intermediate subjects										
Condition	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
PERF-COM	20	20	18	20	20	20	20	18	19	19	20
PERF-UNCOM	0	0	1	1	2	2	1	6	3	3	0
IMP-COM	0	0	0	0	2	20	2	19	18	18	20
IMP-UNCOM	17	20	20	20	18	17	19	17	18	20	20
	High Intermediate subjects										
Condition	S12	S13	S14	S15	S16	S17	S18	S19	S20	S21	S22
PERF-COM	20	20	20	20	18	20	20	20	19	20	18
PERF-UNCOM	1	3	1	0	3	2	1	1	1	1	2
IMP-COM	18	2	20	0	2	20	0	0	19	20	18
IMP-UNCOM	20	17	20	20	17	20	19	20	19	20	19

	High Intermediate subjects				
Condition	S23	S24	S25	S26	S27
PERF-COM	19	20	20	19	20
PERF-UNCOM	3	2	0	1	1
IMP-COM	0	19	0	19	0
IMP-UNCOM	20	18	20	17	20

Table 4 Individual results: Low Intermediate L2ers, acceptances (out of 20)

Condition	*Low Intermediate subjects*								
	S1	S2	S3	S4	S5	S6	S7	S8	S9
PERF-COM	20	14	18	17	17	18	15	20	19
PERF-UNCOM	11	5	5	5	5	4	10	6	5
IMP-COM	14	5	19	17	2	2	5	17	15
IMP-UNCOM	15	15	14	15	16	15	14	16	15

APPENDIX D

The stimuli sentences with perfective verbs

1. PERF-ONG:

1. *В настоящий момент Коля перечитает «Войну и мир».
   V nastojaš'ij moment Kolja **pere**čitajet-PERF "Vojnu i mir".
   'At this moment, Kolja will reread "The War and Peace".'
   Intended: 'At this moment, Kolja is rereading "The War and Peace".'

2. *В данный момент Оля переделает своё упражнение по математике.
   V dannɨj moment Olja **pere**delaet-PERF svojo upražnenije po matematike.
   'At this moment, Olja will redo her math homework.'
   Intended: 'At this moment, Olja is redoing her math homework.'

3. *В данный момент Оля дожарит курицу.
   V dannɨj moment Olja **do**žarit-PERF kuricu.
   'At this moment, Olja will finish frying the chicken.'
   Intended: 'At this moment, Olja finishes up frying the chicken.'

4. *В данный момент Петина команда проиграет матч.
   V dannɨj moment Petina komanda **pro**igraet-PERF match.
   'At this moment, Petja's team will lose the match.'
   Intended: 'At this moment, Petja's team is losing the match.'

5. *В настоящий момент Петя прикурит сигарету.
   V nastojaš'ij moment Petja **pri**kurit-PERF sigaretu.
   'At this moment, Petja will light up a cigarette.'
   Intended: 'At this moment, Petja is lighting up a cigarette.'

2. PERF-HAB:

1. *Оля всегда подпишет свои книги.
   Olja vsegda **pod**pišet-PERF svoi knigi.
   'Olja will always sign her books.'
   Intended: 'Olja always signs her books.'

2. *По утрам Нина всегда заварит одну чашку чая.
   Po utram Nina vsegda **za**varit-PERF odnu čašku čaja.
   'In the morning Nina will always prepare one cup of tea.'
   Intended: 'In the morning, Nina always prepares one cup of tea.'

3. *Оля часто **у**моет свои руки.
   Olja často **u**moet-PERF svoi ruki.
   ‘Olja will often wash her hands.’
   Intended: ‘Olja often washes her hands.’

4. *Полиция регулярно разыщет этих преступников.
   Policija reguljarno **raz**isčet-PERF etix prestupnikov.
   ‘The police will regularly search for these criminals.’
   Intended: ‘The police regularly searches for these criminals.’

5. *Наташа часто уговорит своего брата пойти с ней в кино.
   Nataša často **u**govorit-PERF svoego brata pojti s nej v kino.
   ‘Natasha will often persuade her brother to go to movie with her.’
   Intended: ‘Natasha often persuades her brother to go to the movies with her.’

3. PERF-FUT:

1. Через час Нина приготовит три салата.
   Čerez čas Nina **pri**gotovit-PERF tri salata.
   ‘In an hour, Nina will prepare three salads.’

2. Через 15 минут Федя допьёт свой стакан вина.
   Čerez 15 minut Fedja **do**pjot-PERF svoj stakan vina.
   ‘In 15 minutes, Fedja will finish up his glass of wine.’

3. Через 20 минут Петя съест свой бутерброд.
   Čerez 20 minut Petja **s**est-PERF svoj buterbrod.
   ‘In 20 minutes, Petja will eat up his sandwich.’

4. Через 10 минут Петя выучит это стихотворение наизусть.
   Čerez 10 minut Petja **vy**učit-PERF eto stixotvorenie naizust’.
   ‘In 10 minutes, Petja will learn this poem by heart.’

5. Через пол часа Оля накормит своих детей кашей.
   Čerez pol časa Olja **na**kormit-PERF svoix detej kašej.
   ‘In half an hour, Olja will feed her children hot cereal.’

6. Через 10 минут Наташа споёт песню из кинофильма «Вам и не снилось».
   Čerez 10 minut Nataša **s**pojot-PERF pesnju iz kinifil’ma “Vam i ne snilos’”.
   ‘In 10 minutes, Natasha will sing a song from the movie “Vam i ne snilos’””.

7. Через 5 минут Иван переплывёт эту реку.
   Čerez 5 minut Ivan **pere**plывjot-PERF etu reku.
   ‘In 5 minutes, Ivan will swim across this river.’

8. Через 10 минут Коля **рас**красит эту картинку цветными карандашами.
Čerez 10 minut Kolja **ras**krasit-PERF etu kartinku tsvetnɨmi karandašami.
'In 10 minutes, Kolja will color this image with color crayons.'

9. Через неделю Маша вылечит этого мальчика.
Čerez nedelju Maša **vɨ**lečit-PERF etogo mal'čika..
'In a week, Masha will cure this boy.'

10. Через неделю Саша заработает немного денег.
Čerez nedelju Saša **za**rabotaet nemnogo deneg.
'In a week, Sasha will earn some money.'

4. PERF-ANFUT:

1. *К своему день рождению Оля будет **ис**печь торт.
K svoemu den' roždeniju Olja budet **is**peč' tort.
'For her birthday Olja will bake a cake.'

2. *К концу года Катя будет **вы**платить весь кредит.
K koncu goda Katja budet **vɨ**platit-PERF ves' kredit.
'By the end of the year, Katja will pay off all credit.'

3. *К завтрашнему дню полиция будет **за**держать этого преступника.
K zavtrašnemu dnju policija budet **za**deržat'-PERF etogo prestupnika.
'The police will arrest this criminal by tomorrow.'

4. *Завтра Петя будет **под**считать свои расходы за последний месяц.
Zavtra Petja budet **pod**sčitat'-PERF svoi rasxodɨ za poslednij mesjac.
'Tomorrow Petja will calculate his spending for the last month.'

5. *Завтра Нина будет **по**стирать свою юбку.
Zavtra Nina budet **po**stirat'-PERF svoju jubku.
'Tomorrow, Nina will wash her dress.'

6. *Вечером Нина будет **за**шить Петину рубашку.
Večerom Nina budet **za**šit'-PERF Petinu rubašku.
'In the evening, Nina will sew Petja's shirt up.'

7. *Завтра Нина будет **на**рисовать свой автопортрет.
Zavtra Nina budet **na**risovat'-PERF svoj avtoportret.
'Tomorrow, Nina will make her self-portrait.'

8. *К новому году на улице Горького строители будут **по**строить
   K novomu godu na ulice Gor'kogo stroiteli budut **po**stroit'-PERF
   'Before the new year, the construction workers will build on Gorky's street
   3 новых дома.
   3 novyx doma.
   3 new buildings.'

9. *К своему день рождению Иван будет **на**дуть 5 зелёных шариков.
   K svoemu den' rožděniju Ivan budet **na**dut'-PERF 5 zeljen+x sharikov.
   'For his birthday Ivan will inflate 5 green balloons.'

10. *За ужином Катя будет **раз**рéзать этот пирог на 7 частей.
    Za užinom Katja budet **raz**rezat'-PERF etot pirog na 7 častej.
    'At the dinner, Katja will cut this pie up into 7 pieces.'

APPENDIX E

Experiment 2

Perfective stimuli

Table 1 Individual results: Native controls, acceptances

Condition	*Native controls*									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
PERF-ONG (out of 5)	0	0	0	0	0	0	0	0	0	0
PERF-HAB (out of 5)	0	0	1	0	0	0	0	0	0	0
PERF-FUT (out of 10)	10	10	10	9	10	10	10	10	10	10
PERF-ANFUT (out of 10)	0	0	0	0	0	0	0	0	0	0

Table 2 Individual results: Advanced L2ers, acceptances

Condition	*Advanced subjects*					
	S1	S2	S3	S4	S5	S6
PERF-ONG (out of 5)	1	0	0	1	1	0
PERF-HAB (out of 5)	0	0	2	1	1	1
PERF-FUT (out of 10)	10	9	9	8	9	9
PERF-ANFUT (out of 10)	0	0	1	5	5	5

Table 3 Individual results: High Intermediate L2ers, acceptances

Condition	*High Intermediate subjects*									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
PERF-ONG (out of 5)	2	1	2	1	2	1	2	3	2	1
PERF-HAB (out of 5)	2	3	3	2	4	2	4	2	2	2
PERF-FUT (out of 10)	6	6	8	8	9	9	9	7	6	7
PERF-ANFUT (out of 10)	2	6	4	8	8	8	5	5	6	7
Condition	*High Intermediate subjects*									
	S11	S12	S13	S14	S15	S16	S17	S18	S19	S20
PERF-ONG (out of 5)	2	1	2	2	1	1	3	1	2	2
PERF-HAB (out of 5)	2	1	2	3	2	1	3	2	2	2
PERF-FUT (out of 10)	8	8	9	7	9	10	6	8	8	9
PERF-ANFUT (out of 10)	8	5	5	7	6	5	4	4	5	5
Condition	*High Intermediate subjects*									
	S21	S22	S23	S24	S25					
PERF-ONG (out of 5)	2	3	1	2	2					
PERF-HAB (out of 5)	3	2	1	2	2					
PERF-FUT (out of 10)	7	7	9	9	8					
PERF-ANFUT (out of 10)	6	7	5	6	5					

Table 4 Individual results: Low Intermediate L2ers, acceptances

Condition	*Low Intermediate subjects*								
	S1	S2	S3	S4	S5	S6	S7	S8	S9
PERF-ONG (out of 5)	2	3	3	3	4	3	2	2	5
PERF-HAB (out of 5)	4	3	4	4	4	5	4	3	4
PERF-FUT (out of 10)	7	9	3	9	7	6	8	6	7
PERF-ANFUT (out of 10)	6	6	9	9	8	8	7	9	9

APPENDIX F

The stimuli sentences with imperfective verbs

1. SI-ONG:

1. В настоящий момент Коля перечитывает «Войну и мир».
   V nastojaš'ij moment Kolja **pere**čit**ɨva**et-SI "Vojnu i mir".
   At this moment Kolja is-rereading "The War and Peace".
   'At this moment, Kolja is rereading "The War and Peace"'.

2. В настоящий момент Оля переделывает упражнение по математике.
   V nastojaš'ij moment Olja **pere**del**ɨva**et-SI upražnenije po matematike.
   At this moment Olja is-redoing the math exercise.
   'At this moment, Olja is redoing a/the math exercise.'

3. В данный момент Оля дожаривает курицу.
   V dannɨj moment Olja **do**žari**va**et-SI kuricu.
   At this moment Olja is-finishing-frying chicken.
   'At this moment, Olja is finishing up frying a/the chicken.'

4. В настоящий момент Петина команда проигрывает матч.
   V nastojaš'ij moment Petina komanda **pro**igr**ɨva**et-SI match.
   At this moment Petja's team is-losing match.
   'At this moment, Petja's team is losing a/the match.'

5. В настоящий момент Петя прикуривает сигарету.
   V nastojaš'ij moment Petja **pri**kuri**va**et-SI sigaretu.
   At this moment Petja is-lighting-up cigarette.
   'At this moment, Petja is lighting up a/the cigarette.'

2. SI-HAB:

1. Оля всегда подписывает свои книги.
   Olja vsegda **pod**pis**ɨva**et-SI svoi knigi.
   Olja always is-signing self books.
   'Olja is always signing her books.'

2. Утром Оля заваривает одну чашку чая.
   Utrom Olja vsegda **za**vari**va**et-SI odnu čašku čaja.
   In the morning Olja always is-preparing one cup of tea.
   'In the morning Olja is always preparing one cup of tea.'

3. Наташа всегда умывает свои руки перед едой.
   Nataša vsegda **u**m**i̯va**et-SI svoi ruki pered edoj.
   Natasha always is-washing self hands before eating.
   ‘Natasha is always washing her hands before eating.’

4. Полиция регулярно разыскивает этих преступников.
   Policija reguljarno **razi̯**ski**va**et-SI etix prestupnikov.
   Police regularly is-searching these criminals.
   ‘Police is regularly searching for these criminals.’

5. Маша часто уговаривает своего брата пойти с ней в кино.
   Maša často **u**govari**va**et-SI svoego brata pojti s nej v kino.
   Masha often is-trying-to-persuade self brother to go with her to movie.
   ‘Masha is often trying to persuade her brother to go to the movie with her.’

3. PI-ONG:

1. В настоящий момент Петя читает рассказы Чехова.
   V nastojaš’ij moment Petja čitajet-PI rasskazi̯ Čexova.
   At this moment Petja reads stories by Chekhov.
   ‘At this moment, Petja is reading stories by Chekhov.’

2. В данный момент Оля делает уроки.
   V danni̯j moment Olja delaet-PI uroki.
   At this moment Olja does homework.
   ‘At this moment, Olja is doing homework.’

3. В данный момент Маша жарит мясо.
   V danni̯j moment Maša žarit-PI mjaso.
   At this moment Masha fries meat.
   ‘At this moment, Masha is frying meat.’

4. В настоящий момент Нина играет с Олей.
   V nastojaš’ij moment Nina igraet-PI s Olej.
   At this moment Nina plays with Olja.
   ‘At this moment, Nina is playing with Olja.’

5. В данный момент Коля курит на балконе.
   V danni̯j moment Kolja kurit-PI na balkone.
   At this moment Kolja smokes on balcony.
   ‘At this moment, Kolja is smoking on a/the balcony.’

4. PI-HAB:

1. Нина часто пишет письма.
   Nina často pišet-PI pis'ma.
   Nina often writes letters.
   'Nina often writes letters.'

2. Нина варит рис очень редко.
   Nina varit-PI ris očen' redko.
   Nina cooks rice very rarely.
   'Nina very rarely cooks rice.'

3. Маша часто моет посуду.
   Maša často moet-PI posudu.
   Masha often washes dishes.
   'Masha often washes dishes.'

4. Коля постоянно ищет новых друзей.
   Kolja postojanno isčet-PI novyx druzej.
   Kolja continuously searches new friends.
   'Kolja continuously looks for new friends.'

5. Маша редко говорит по-русски.
   Maša redko govorit-PI po-russki.
   Masha rarely speaks in Russian.
   'Masha rarely speaks Russian.'

5. PI-FUT:

1. *Через какое-то время Нина готовит ужин.
   Čerez kakoe-to vremja Nina gotovit-PI užin.
   In some time Nina prepares dinner.
   'Some time from now, Nina is preparing dinner.'

2. *Через пол часа Саша пьёт пиво.
   Čerez pol časa Saša pjot-PI pivo.
   In half hour Sasha drinks beer.
   'In half an hour, Sasha is drinking beer.'

3. *Через 5 минут Наташа ест суп.
   Čerez 5 minut Nataša est-PI sup.
   In 5 minutes Natasha eats soup.
   'In 5 minutes, Natasha is eating soup.'

4. *Через час Коля учит различные языки.
   Čerez čas Kolja učit-PI različn̶i̶e jaz̶i̶ki.
   In hour Kolja learns various languages.
   ‘In an hour, Kolja is learning various languages.’

5. *Через минуту Наташа кормит кошек.
   Čerez minutu Nataša kormit-PI košek.
   In minute Natasha feeds cats.
   ‘In a minute, Natasha is feeding cats.’

6. *Через три часа Оля поёт в школьном хоре.
   Čtrez tri časa Olja pojot-PI v škol’nom xore.
   In three hours Olja sings in school’s chorus.
   ‘In three hours, Olja is singing in school’s chorus.’

7. *Через 20 минут Федя плывёт по реке.
   Čerez 20 minut Fedja pl̶i̶vjot-PI po reke.
   In 20 minutes Fedja swims on river.
   ‘In 20 minutes, Fedja is swimming in the river.’

8. *Через 10 минут Иван красит стены.
   Čerez 10 minut Ivan krasit-PI sten̶i̶.
   In 10 minutes Ivan paints walls.
   ‘In 10 minutes, Ivan is painting walls.’

9. *Через месяц Оля лечит людей с помощью гипноза.
   Čerez mesjats Olja lečit-PI ljudej s pomoš’u gipnoza.
   In month Olja heals people by means of hypnosis.
   ‘In a month, Olja is healing people using hypnosis.’

10. *Через неделю Саша работает на дому.
    Čerez nedelju Saša rabotaet-PI na domu.
    In week Sasha works at home.
    ‘In a week, Sasha is working at home.’

6. <u>PI-ANFUT:</u>

1. На завтрак Нина будет печь блины.
   Na zavtrak Nina budet peč’-PI bliny.
   For breakfast Nina will bake pancakes.
   ‘For breakfast Nina will make pancakes.’

2. Теперь Катя будет платить за машину помесячно.
   Teper’ Katja budet platit’-PI za mašinu pomesjačno.
   Now Katja will pay for car monthly.
   ‘From now on, Katja will pay for the car monthly.’

3. Петя будет держать Машу за руку ещё 5 минут.
   Petja budet deržat'-PI Mašu za ruku eš'o 5 minut.
   Petja will hold Masha by hand yet 5 minutes.
   'Petja will hold Masha's hand for another 5 minutes.'

4. С этого момента Маша будет считать до пяти перед тем как что-либо.
   S etogo momenta Maša budet sčitat'-PI do pjati pered tem kak čto libo сказать.
   skazat'.
   From this moment Masha will count to five before saying something.
   'From this moment on, Masha will count till five before saying anything.'

5. Теперь Оля будет стирать одежду только руками.
   Teper' Olja budet stirat'-PI odeždu tol'ko rukami.
   Now Olja will wash clothing only by hands.
   'From now on, Olja will wash clothing only by hand.'

6. На следующей неделе Маша будет шить платья.
   Na sledujučej nedele Maša budet šit'-PI platja.
   During the next week Masha will sew dresses.
   'During the next week, Masha will make dresses.'

7. По окончании перемены ученики будут рисовать пастелью.
   Po okončanii peremeni učeniki budut risovat'-PI pastelju.
   After break is over pupils will draw with-pastel.
   'After the break, the pupils will draw using pastel.'

8. В следующем году эти рабочие будут строить только коттеджи.
   V sledujusčem godu eti rabočie budut stroit'-PI tol'ko kottedži.
   In next year these workers will build only cottages.
   'During next year, these workers will build only cottages.'

9. Когда они повернут направо ветер будет дуть им в лицо.
   Kogda oni povernut napravo veter budet dut'-PI im v lico.
   When they will-turn to the-right wind will blow them in face.
   'When they will turn to the right, the wind will blow in their face.'

10. В будущем этим ножом Наташа будет резать только хлеб.
    V buduš'em etim nožom Nataša budet rezat'-PI tol'ko xleb.
    In the-future with this knife Natasha will cut only bread.
    'In the future, Natasha will use this knife only for cutting bread.'

7. Activity-*va*:

1. *В настоящий момент Петя читывает рассказы Чехова.
   V nastojaš'ij moment Petja čit**ɨva**et rasskaz**ɨ** Čexova.
   At this moment Patja is-reading stories by Chekhov.
   'At this moment, Petja is reading stories by Chekhov.'

2. *В настоящий момент Маша делывает уроки.
   V nastojaš'ij moment Maša del**ɨva**et uroki.
   At this moment Masha is-doing homework.
   'At this moment, Masha is doing homework.'

3. *В данный момент Катя жаривает мясо.
   V dann**ɨ**j moment Katja žari**va**et mjaso.
   At this moment Katja is-frying meat.
   'At this moment, Katja is frying meat.'

4. *В настоящий момент Маша игрывает с Олей.
   V nastojaš'ij moment Maša igr**ɨva**et s Olej.
   At this moment Masha is-playing with Olja.
   'At this moment, Masha is playing with Olja.'

5. *В данный момент Саша куривает на балконе.
   V dann**ɨ**j moment Saša kuri**va**et na balkone.
   At this moment Sasha is-smoking on balcony.
   'At this moment, Sasha is smoking on a/the balcony.'

6. *Маша часто писывает письма.
   Maša často pis**ɨva**et pis'ma.
   Masha often is-writing letters.
   'Masha is often writing letters.'

7. *Маша варивает рис очень редко.
   Maša vari**va**et ris očen' redko.
   Masha is-cooking rice very rarely.
   'Masha is very rarely cooking rice.'

8. *Маша часто мывает посуду.
   Maša často m**ɨva**et posudu
   Masha often is-washing dishes.
   'Masha is often washing dishes.'

9. *Коля постоянно искивает новых друзей.
   Kolja postojanno iski**va**et novyx druzej.
   Kolja continuously is-searching new friends.
   'Kolja is continuously looking for new friends.'

10. *Маша редко говаривает по-русски.
    Maša redko govari**va**et-SI po-russki.
    Masha rarely is-speaking in Russian.
    ‘Masha is rarely speaking in Russian.’

APPENDIX G

Experiment 2

Imperfective stimuli

Table 1 Individual results: Native controls, acceptances

Condition	*Native controls*									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
SI-ONG (out of 5)	5	5	5	5	5	5	5	5	5	4
SI-HAB (out of 5)	4	5	5	5	5	5	4	5	5	5
PI-ONG (out of 5)	5	5	5	5	5	5	5	5	5	4
PI-HAB (out of 5)	4	5	5	5	5	5	5	5	5	5
*PI-FUT (out of 10)	0	0	1	0	0	0	1	1	1	0
PI-ANFUT (out of 10)	9	10	10	10	10	10	10	10	10	9
*PI-va-ONG (out of 5)	0	1	0	0	0	0	0	0	0	0
*PI-va-HAB (out of 5)	0	0	0	0	0	0	0	0	0	0

Table 2 Individual results: Advanced L2ers, acceptances

Condition	*Advanced subjects*					
	S1	S2	S3	S4	S5	S6
SI-ONG (out of 5)	5	5	3	3	5	5
SI-HAB (out of 5)	5	4	5	5	5	5
PI-ONG (out of 5)	5	5	5	5	5	4
PI-HAB (out of 5)	5	5	4	5	5	5
*PI-FUT (out of 10)	1	1	1	2	2	2
PI-ANFUT (out of 10)	10	10	9	9	10	9
*PI-va-ONG (out of 5)	0	0	0	0	0	0
*PI-va-HAB (out of 5)	0	0	0	1	0	1

Table 3 Individual results: High Intermediate L2ers, acceptances

Condition	*High Intermediate subjects*									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
SI-ONG (out of 5)	0	2	3	0	4	2	4	2	1	3
SI-HAB (out of 5)	4	3	4	2	4	4	5	4	5	4
PI-ONG (out of 5)	5	4	5	5	5	5	5	4	5	4
PI-HAB (out of 5)	5	5	5	5	5	5	5	4	5	5
*PI-FUT (out of 10)	1	1	1	3	1	3	3	1	2	1
PI-ANFUT (out of 10)	9	8	10	10	8	8	8	9	9	8
*PI-va-ONG (out of 5)	1	0	3	0	1	0	2	2	1	0
*PI-va-HAB (out of 5)	3	2	3	1	3	3	2	2	3	2

Condition	*High Intermediate subjects*									
	S11	S12	S13	S14	S15	S16	S17	S18	S19	S20
SI-ONG (out of 5)	4	2	1	2	0	2	3	0	4	2
SI-HAB (out of 5)	5	3	3	3	4	3	4	2	4	4
PI-ONG (out of 5)	5	5	5	5	5	4	5	5	5	5
PI-HAB (out of 5)	5	4	5	5	5	4	5	5	5	5
*PI-FUT (out of 10)	1	2	2	1	3	1	1	1	3	2
PI-ANFUT (out of 10)	9	10	8	8	8	9	10	9	8	9
*PI-va-ONG (out of 5)	3	0	1	0	2	2	1	0	3	0
*PI-va-HAB (out of 5)	3	1	3	3	2	2	3	2	3	1

Condition	*High Intermediate subjects*				
	S21	S22	S23	S24	S25
SI-ONG (out of 5)	4	2	2	3	3
SI-HAB (out of 5)	5	4	3	3	4
PI-ONG (out of 5)	5	5	5	4	5
PI-HAB (out of 5)	5	4	5	5	5
*PI-FUT (out of 10)	1	1	2	3	1
PI-ANFUT (out of 10)	10	9	9	10	8
*PI-va-ONG (out of 5)	1	0	2	2	3
*PI-va-HAB (out of 5)	3	3	2	2	3

Table 4 Individual results: Low Intermediate L2ers, acceptances

Condition	*Low Intermediate subjects*								
	S1	S2	S3	S4	S5	S6	S7	S8	S9
SI-ONG (out of 5)	1	2	4	4	3	4	4	1	3
SI-HAB (out of 5)	3	3	4	5	3	4	5	3	3
PI-ONG (out of 5)	5	5	5	4	5	5	5	5	4
PI-HAB (out of 5)	5	5	5	5	5	5	4	5	4
*PI-FUT (out of 10)	1	5	4	4	6	4	6	4	3
PI-ANFUT (out of 10)	7	9	8	7	6	8	7	7	8
*PI-va-ONG (out of 5)	0	4	5	1	5	0	4	1	5
*PI-va-HAB (out of 5)	2	4	5	0	5	2	4	0	5

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