ZA-PERFECTIVES IN RUSSIAN MOTION VERBS

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By

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Abstract

The linguistic expression of spatial and temporal relations shows considerable structural parallels (Bach, 1986; Filip, 1999; Langacker, 1987; Talmy, 2000; Verkuyl, 1993). Prefixes with spatial origins mark the perfective aspect in Russian. Prefix za- (a cognate of the preposition za) is one of the most productive aspectual markers (Chertkova, 1996; S. V. Sokolova, 2009). It exhibits high semantic variation in addition to its aspectual contribution. When attached to verbs of motion, za- expresses the beginning or the end of an event, as it interacts with lexicalized construal of motion events known as determinacy. A number of works have addressed the semantics of za-alone (Braginsky, 2008; Janda, 1986; Keller, 1992; Paillard, 1991) or in connection with other prefixes (Flier, 1975; Gallant, 1979; Schooneveld, 1978), but no model has been proposed to account specifically for the begin/end opposition in za-perfective verbs of motion.

In this dissertation I offer an account of the begin/end opposition in za-perfective verbs of motion, informed by the recognition of symbolic nature of linguistic structure (Langacker, 1987), spatio-temporal homology (Talmy, 2000), and the pervasive use of grammatical categories for the expression of entrenched patterns of perspective in human experience. Employing the notions of boundedness, scanning, viewpoint extension, plexity, and reference frames (Langacker, 1987; Levinson, 2003; Talmy, 2000), I develop an integrated account of aspect, determinacy, and za-.
I show that construals enforced by aspect and determinacy represent conceptualization strategies embodied in spatial experience. I argue for a strong connection between the semantics of the prefix \textit{za}- and the preposition \textit{za}. I expand on the original Tyler and Shakhova’s (2008) account of \textit{za}’s polysemy to accommodate for the \textsc{begin/end} pattern of \textit{za}-. I argue that \textit{za}- is a spatially motivated construal-structuring modifier of events, whose extensions in different reference frames gravitate towards different ways of conceptualizing internal structure of motion events ultimately motivating the \textsc{begin/end} pattern. I further determine that in contexts with determinate verbs, unlike other goal prefixes, \textit{za}- omnivorously collocates with different types of prepositional phrases expressing goal. I confirm this claim in a corpus study of prefix-preposition collocations.

\textsc{Index Words:} Russian, aspect, motion verbs, determinacy, prefix, polysemy, construal, cognitive linguistics, space-time homology
Маме, папе, Саше, Соне.
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## CONTENTS

### Chapter 1

1 Introduction ........................................ 1

### Chapter 2

2 Background ......................................... 5

2.1 Problem ........................................... 5

2.2 Previous work ..................................... 8

2.2.1 Atomist approaches ............................ 12

2.2.2 Invariant approaches ......................... 18

2.2.3 Formal approaches ............................. 26

2.2.4 Cognitive approaches .......................... 34

2.3 Conclusion: an integrated approach to za- .......... 45

### Chapter 3

3 Motivations for spatially-grounded semantics ........ 58

3.1 Paradigmatic and syntagmatic significance of za- as a perfectivizing prefix ......................... 58

3.1.1 Paradigmatic patterning ....................... 60

3.1.2 Syntagmatic patterning ....................... 63

3.1.3 Conclusion ..................................... 68

3.2 Za- and za: informing prefixal semantics through prepositional semantics ......................... 68

3.3 Conclusion ........................................ 79

### Chapter 4

4 Aspect in Russian .................................. 80

4.1 Preliminary remarks ............................... 80

4.1.1 Grammatical aspect and lexical aspect ........ 85

4.1.2 Are prefixes markers of perfectivity? ........ 95

4.2 A cognitive account of grammatical aspect ........ 101

4.2.1 Boundedness ................................... 105

4.2.2 Degree of viewpoint extension: Magnification and Reduction ........................................ 107

4.2.3 Focus distribution: scanning and focus element ........ 112

4.2.4 The general-factual meaning of the imperfective .......... 122

4.3 Conclusion ......................................... 129

### Chapter 5

5 Motion verbs ........................................ 132

5.1 Preliminary remarks ................................ 132
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2</td>
<td>Determinacy as a representation of lexical aspect</td>
<td>134</td>
</tr>
<tr>
<td>5.3</td>
<td>Determinacy and inherent telicity</td>
<td>142</td>
</tr>
<tr>
<td>5.4</td>
<td>Plexity and degree of viewpoint extension as motivations for the determinacy distinction</td>
<td>154</td>
</tr>
<tr>
<td>5.5</td>
<td>Determinacy and grammatical aspect</td>
<td>165</td>
</tr>
<tr>
<td>5.5.1</td>
<td>Plexity and extension degree of speaker’s perspective</td>
<td>166</td>
</tr>
<tr>
<td>5.5.2</td>
<td>Plexity and perceptual scanning</td>
<td>170</td>
</tr>
<tr>
<td>5.6</td>
<td>Conclusion</td>
<td>172</td>
</tr>
<tr>
<td>6</td>
<td>An integrated account of semantics of $\text{za}$ and $\text{za-}$</td>
<td>175</td>
</tr>
<tr>
<td>6.1</td>
<td>Basic protoscene</td>
<td>177</td>
</tr>
<tr>
<td>6.2</td>
<td>Relative and intrinsic reference frames in the semantics of $\text{za}$ and $\text{za-}$</td>
<td>182</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Relative frame of reference</td>
<td>187</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Intrinsic frame of reference</td>
<td>205</td>
</tr>
<tr>
<td>6.3</td>
<td>Summary</td>
<td>217</td>
</tr>
<tr>
<td>7</td>
<td>Extending the analysis of the semantics of $\text{za-}$</td>
<td>219</td>
</tr>
<tr>
<td>7.1</td>
<td>Contrasting the semantics of $\text{za-}$ and other prefixes</td>
<td>219</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Contrast sets</td>
<td>221</td>
</tr>
<tr>
<td>7.1.2</td>
<td>$\text{za-}$ versus $\text{v-}$</td>
<td>224</td>
</tr>
<tr>
<td>7.1.3</td>
<td>$\text{za-}$ versus other prefixes</td>
<td>230</td>
</tr>
<tr>
<td>7.1.4</td>
<td>Relative frame of reference in $\text{za-}$-perfectives of determinate stems</td>
<td>240</td>
</tr>
<tr>
<td>7.1.5</td>
<td>Conclusion</td>
<td>244</td>
</tr>
<tr>
<td>7.2</td>
<td>The DROP-BY meaning</td>
<td>244</td>
</tr>
<tr>
<td>7.3</td>
<td>Corpus study: $\text{za-}$ and other goal prefixes</td>
<td>251</td>
</tr>
<tr>
<td>7.3.1</td>
<td>Background</td>
<td>252</td>
</tr>
<tr>
<td>7.3.2</td>
<td>Corpus design</td>
<td>263</td>
</tr>
<tr>
<td>7.3.3</td>
<td>Data</td>
<td>269</td>
</tr>
<tr>
<td>7.3.4</td>
<td>Discussion</td>
<td>271</td>
</tr>
<tr>
<td>8</td>
<td>Conclusion and future work</td>
<td>277</td>
</tr>
<tr>
<td>8.1</td>
<td>Class heterogeneity of motion verbs</td>
<td>278</td>
</tr>
<tr>
<td>A</td>
<td>The scholarly transliteration standard adapted in the dissertation</td>
<td>283</td>
</tr>
<tr>
<td>B</td>
<td>Prefixal productivity of indeterminate verbs of motion</td>
<td>284</td>
</tr>
<tr>
<td>C</td>
<td>Associations between prefixes and prepositional phrases for all motion verbs</td>
<td>286</td>
</tr>
<tr>
<td>D</td>
<td>Associations between prefixes and prepositional phrases for $\text{idti}$, $\text{‘walk’}$</td>
<td>288</td>
</tr>
<tr>
<td>Bibliography</td>
<td>290</td>
<td></td>
</tr>
</tbody>
</table>
List of Figures

1 A syntactic structure representation of the lexical za-, adapted from Svenonius (2004, p. 206), Ramchand (2004, p. 356), with the mapping onto the surface representation in ‘He threw the ball onto the street.’ 30
2 A syntactic structure representation of the superlexical za-, adapted from Svenonius (2004, p. 206), alongside the mapping onto the surface representation in ‘He started to throw the ball’. 31
3 The polysemy network of za-, adapted from Janda (1986, p. 79); labels next to dashed arrows represent the mechanism of extension from one configuration to another 36
4 The prototypical configuration of za- in C1, adapted from Janda (1986, p. 78); the shaded area represents the extradomain 38
5 A Venn diagram representation of the contribution of aspect, motion verbs, and za- to the semantics of za-perfective motion verbs. The shaded area represents the semantics of za-perfective motion verbs. 54
6 Russian prepositions and prefixes; cognate pairs are linked; prefixes de-, dis-, re- are not native 75
7 Verbal prefixation as an aspectual marker in Russian 83
8 Aspectual hierarchy in Russian. Lexical aspect instantiates grammatical aspect and grammatical aspect instantiates the ubiquitous category of aspect. Each level has specific representations. 87
9 Unbounded event 106
10 Bounded event 106
11 A distal viewpoint evoking a bounded conceptualization of an event; wave shading represents the field of conceptualization 109
12 A magnification of the viewpoint from distal to proximal; the boundaries of the bounded event traverse outside of the conceptual field view; wave shading represents the field of conceptualization 109
13 A proximal viewpoint evoking an unbounded conceptualization of an event as a result of viewpoint magnification of a bounded event; wave shading represents the field of conceptualization 110
14 A diagram of an imperfective event with a non-specific distributed focus; the change in distance between the TR and LM across states $t_n - 3$ through $t_{n + 3}$ symbolically represents a process involving change; the snapshots of the process visible to the construal are represented in red 114
Temporal snapshots of indeterminate motion across two time frames. E2 represents the arrangement profiled by the prefix za- in indeterminate verbs ................................................. 200
Summary scanning of an indeterminate motion event ......................... 203
The extended polysemy network of za, adapted from Tyler and Shakhova (2008), showing the BEGIN prefixal extension for the indeterminate motion verbs ....................................................... 204
Temporal snapshots of determinate motion across five time frames. E5 represents the arrangement profiled by the prefix za- in determinate verbs. The red arrowed line represents PATH ................................. 211
Summary scanning of a determinate motion event ............................ 214
A multiple exposure image of a “hitting” event. Drummer Gene Krupa performing at Gjon Mili’s studio. Photograph by Gjon Mili, 1941 ........................ 215
The extended polysemy network of za, adapted from Tyler and Shakhova (2008), showing prefixal extensions ................................. 216
First-order and second-order contrast sets ....................................... 233
Semantic opposition between four prefixes ..................................... 234
The scenario of entering the room as profiled by pri- and u- ............. 235
The scenario of entering the room as profiled by za-and vy-; the multiple locations of the speaker-observer reflect the flexibility of the vantage point in these construals .................................................. 236
The scenario of exiting the closet as profiled by vy- .......................... 238
The extended polysemy network of za, adapted from Tyler and Shakhova (2008), showing prefixal extensions with primary and secondary motivating links .................................................. 243
A bubble chart of Pearson residuals for prepositional phrase frequency in the corpus for all motion verbs; logarithmic compression was applied to all data points to highlight association differences at lower values . 273
## List of Tables

1. Lexical and superlexical prefixes, adapted from Tolskaya (2007, p. 347)  
2. Interaction between determinacy and aspect  
3. Russian verbs of motion  
4. The contrast set of *za-* and *po-* for perfective verbs of motion  
5. Prefixation productivity in determinate motion verbs. ‘−’ does not form a prefixed derivation; ‘+’ forms a prefixed derivation. Adapted from Titelbaum (1990, p. 40); data for *bresti* ‘ford’ from its occurrence in the Russian National Corpus (Vinogradov Institute of the Russian Language and Poetics, 2012); glosses capture central meanings of prefixes  
6. Prefix-preposition collocation patterns, adapted from Ferm (1990, p. 49)  
7. Russian prepositions and prefixes (English glosses represent the common meaning of the cognate prefixes and preposition and exclude extensions, which may be different for prefixes and prepositions; when the two meanings diverge, preference is given to the prepositional meaning); the last three prefixes are non-native  
8. Prefixation matrix of motion verbs in the corpus, the numeric representation corresponds to the source of data: \( RNC_{\text{Google}}^{\text{Leeds}} \) (Google, 2012; Sharoff, 2011; Vinogradov Institute of the Russian Language and Poetics, 2012)  
9. Frequencies of prepositional phrases in the corpus for all motion verbs  
10. Expected values for prepositional phrase frequency in the corpus for all motion verbs; \( X^2 = 5177.02, \text{df} = 20, \text{p-value} < 2.2e-16, \phi_c = 0.6081882 \)  
11. Pearson residuals for prepositional phrase frequency in the corpus for all motion verbs  
12. Scholarly transliteration standard (Pedersen, 2006; Reformatskij, 1960)  
13. Prefixation productivity in indeterminate motion verbs. ‘−’ does not form a prefixed derivation; ‘+’ forms a prefixed derivation; adapted from Titelbaum (1990, p. 40); data for *brodit* ‘ford’ from the Russian National Corpus (Vinogradov Institute of the Russian Language and Poetics, 2012)  
14. Frequencies of prepositional phrases in the corpus for all motion verbs
<table>
<thead>
<tr>
<th></th>
<th>Expected values for prepositional phrase frequency in the corpus for all motion verbs; $X^2 = 5177.02$, df = 20, p-value &lt; 2.2e-16, $\phi_c = 0.6081882$</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Pearson residuals for prepositional phrase frequency in the corpus for all motion verbs</td>
</tr>
<tr>
<td>16</td>
<td>Prefix-preposition enthropy values for all motion verbs</td>
</tr>
<tr>
<td>17</td>
<td>Prepositional phrase frequency in the corpus for <em>idti</em>, ‘walk’</td>
</tr>
<tr>
<td>18</td>
<td>Expected values for prepositional phrase frequency in the corpus for <em>idti</em>, ‘walk’; $X^2 = 767.6755$, df = 12, p-value &lt; 2.2e-16 $\phi_c = 0.7204514$</td>
</tr>
<tr>
<td>19</td>
<td>Pearson residuals for prepositional phrase frequency in the corpus for <em>idti</em>, ‘walk’</td>
</tr>
<tr>
<td>20</td>
<td>Prefix-preposition enthropy values for <em>idti</em>, ‘walk’</td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 1

Introduction

The importance of perspective in the construal of an event has been attributed to many facets of language. In their seminal works on language and cognition, Langacker (1987, 1991) and Talmy (2000) have claimed that changing perspectives on spatial scenes is a principle cognitive operation that is reflected in the range of spatial language available to speakers, as they express their construal of an event. Particularly, speakers are capable of expressing a construal of a scene from a vantage point that is not necessarily tied to their immediate location (Levinson, 2003). A similar ability allows speakers to conceptualize temporal facets of events from different perspectives (cf. Janda, 2004). This ability arises from the homologous status of the spatial and temporal domains as having comparable structure in cognitive representations (Talmy, 2000; Walsh, 2003). In this sense spatial and temporal particles constitute a fundamental inventory recruited by speakers to attenuate various construals on spatial and temporal facets of a scene (Filip, 1999; Vandeloise, 1991). The inventory is ultimately employed to realize the communicative function of the language, as the speaker is capable of recognizing and processing perspective shifts between the ego and the interlocutor.

The case of the Russian preposition \textit{za} and the perfectivizing prefix \textit{za-} is an example where the same phonological form is employed to denote relations in the two domains, the domain of space and the domain of time. That is, both the preposition and the prefix profile relations in space, whereas the perfectivizing prefix also serves to
highlight temporally motivated construals on events. While a considerable amount of research has been devoted to the study of Russian prepositions and Russian prefixes (Ferm, 1990; Flier, 1975; Gallant, 1979; Janda, 1986; Krongauz, 1994; Schooneveld, 1978; Shull, 2003; Tolskaya, 2007; Anna Andreevna Zaliznyak, 1995), and conceptual similarity of scene specification has been observed for the two classes of particles (Filip, 1999; Gallant, 1979; Isačenko, 1965; Tolskaya, 2007), there has not yet been done any work exploring the semantic interaction between what might appear to be the homophonous preposition za and prefix za-.

The conceptualization of motion events is another example, where the spatial and temporal domain come together to inform the construal on an event, as speakers recognize the event of motion having a strong grounding in both time and space. Russian verbs in general participate in the aspectual opposition between the perfective and imperfective construals, which is also characteristic of the motion verb class. The unique feature of Russian motion verbs is that in addition to the perfective/imperfective opposition, they also consistently lexicalize two distinct views on the scene (determinate and indeterminate), giving the speaker the choice of how to attenuate the internal composition of an event.

Most remarkably, however, Russian motion verbs combine with the perfectivizing prefix za- to derive perfective forms of quite contradictory meanings. Particularly, one class of motion verbs, when prefixed with za-, denotes the motion that has come to an end, whereas the other class, when prefixed with za-, denotes the motion that has started. The dichotomy between these two meanings is particularly significant in the context of high frequency verbs of motion. Furthermore, while the majority of Russian verbs do not maintain the lexicalized opposition of the construal on an event as unique to the class of motion verbs, there is a general variation in meanings of non-motion za-perfectives either denoting the beginning of an action or the end.
of an action; the motivation for this distribution remains vague. While this peculiar pattern has been previously observed in the literature (Tabakowska, 2003; Tolskaya, 2007; Anna Andreevna Zaliznyak, 1995), the motivations pertaining specifically to why the combination of one prefix and two motion verbs classes would lead to such contradictory meaning pattern have not been addressed.

My intent here is to articulate the semantics of the perfectivizing prefix za- in the context of Russian motion verbs. The account is informed by the cognitive linguistics paradigm, with its emphasis on recognizing the meaningfulness of language structure (Langacker, 1987, 1991, 2002), the spatio-socio-physiological embodiment of human symbolic systems, and communication as the primary function and design-motivator in language structure and use (Tyler, 2012).

The structure of the work reflects the process of building up a set of notions describing the phenomena, which contribute to the BEGIN/END distinction, and ultimately bringing them together for an integrated analysis of the core phenomenon. I begin by defining the research problem and overview and critique previous approaches to it. Then, I develop a spatially grounded analysis of the semantics of za- in the context of Russian motion verbs. I do so, first, by establishing a semantic connection between the preposition za and the prefix za- motivating the spatially grounded foundation of the prefixal meaning; second, by recognizing how the spatially grounded semantics of the perfectivizing prefix za- interact with the perspective shifts attributable to the difference between the two classes of motion verbs and across the imperfective and imperfective aspect. Overall, I demonstrate that the perspective—as derived from basic spatial experience—is a powerful contributor to the meaning patterns across aspect, motion verbs, and the prefix za-. These findings ultimately lay the groundwork for extending the analysis to the semantic patterns of a wider class of perfective motion verbs, which includes an examination of za- in relation to other
goal prefixes, and a corpus study, uncovering the semantic distinctions between goal prefixes based on their collocational patterns with goal prepositions. Ultimately, I trace the specific semantics instantiation for each of the meanings in the BEGIN/END opposition to two reference frames, which structure the patterns of semantic extension of the original spatial protoscene of za/za-. I update the polysemy network proposed in Tyler and Shakhova (2008) to include the extensions, which constitute the aspectual contribution of za- to determinate and indeterminate motion verbs. I end my analysis with a summary of the major ideas and a discussion of the potential directions in future research.
2.1 Problem

One of the most perplexing semantic properties of the prefix za- is its ability to encode both the beginning and the end of a motion event as can be demonstrated by comparing sentences (1) and (2).

(1) Соня зашла.
Sonj-a za-ˇs-l-a.
Sonya-NOM.SG za.PERF-walkD-PAST-FEM.SG.
‘Sonya walked in.’

(2) Саша заходил.
Saˇ s-a za-xodi-l-∅.
Sasha-NOM.SG za.PERF-walkI-PAST-MASC.SG.
‘Sasha started to walk.’

The two sentences in (1) and (2) refer to an ambulation event performed by an agent. The ambulation event is expressed by two verb stems prefixed with za-, zašla ‘walked in’ in (1) and zaxodil ‘started to walk’ in (2). Both stems denote a type of motion performed specifically by means of ambulation—as opposed to other gaits; they also share identical grammatical marking for the past tense and perfective aspect. Nonetheless, the two verbs refer to different stages—or phases\(^1\)—of a motion event. In sentence (1) the agent is understood to have ended the ambulation event, whereas in

\(^1\)A translation of the term “фазисы” used in Isačenko (1965).
sentence (2) the agent is understood to have begun the ambulation event. As such, the two verbs represent the opposite points delimiting the flow of the event: its beginning and its termination.

How much of this semantic opposition is to be attributed to the prefix za-? The answer to this question is less straightforward than it initially appears. At the first glance, the contribution of za- is particularly evident in its absence from the morphological structure of the verb. Specifically, when unprefixed, the two verb stems denote ambulation without any reference to the beginning or the end of a motion event:

(3) Соня шла.
Sonj-a š-l-a.
Sonya-NOM.SG walk0.IMPERF-PAST-FEM.SG.
'Sonya was walking.'

(4) Саша ходил.
Saš-a xodi-1-∅.
Sasha-NOM.SG walk1.IMPERF-PAST-MASC.SG.
'Sasha walked.'

That is, without the prefix za- the BEGIN/END opposition between the two stems no longer holds, which suggests that the prefix is responsible for establishing this opposition.

At the same time, it is clear from the English glosses in (3) and (4) that, while the two verbs refer to ambulation, they differ in the way they represent the internal structure of the ambulation events they encode. The verb in (3) highlights the continuity of a motion event, whereas the verb in (4) expresses the idea of repeatedness, habituality, or lack of any internal structure within an event involving aimless motion or simply the ability to walk\(^2\). This particular semantic pattern is observed

\(^2\)Naturally, we are dealing here with the interaction between the determinacy category of motion verbs and the semantics of the imperfective aspect. I will be addressing this range of phenomena in full detail in Section 5.5 on p. 165.
in more than just idti and xodit' across their prefixed and unprefixed instances. One reason for it is that Russian verbs demonstrate complex patterns of interaction with *aspectual meaning*. In particular, the pair of sentences in (1) and (2) express a perfective construal as though the event has taken place and its result is apparent, whereas (3) and (4) express an imperfective construal, where the result of the event is not apparent or relevant. In the most general terms, the difference between the two construals resides in the kind of mental perspective that the speaker takes in his or her understanding of the events in all four sentences, which—as it appears—contributes to the difference in the meaning of za-.

Another reason for the semantic pattern in (1)–(4) is that idti and xodit' belong to a closed class of Russian motion verbs demonstrating a unique construal commitment, which is even more specific than the perfective vs. imperfective dichotomy, although equally persistent. This construal has been traditionally attributed to the notion of *determinacy* (Feldstein, 2007; Flier, 1975). Determinacy captures the way the internal composition of a motion event is conceptualized by the speaker. For the determinate verbs, which I identify with the subscript \( \text{walk}_D \), the event is viewed as taking place along a predetermined path and towards a specific destination. For the indeterminate verbs, which I identify with the subscript \( \text{walk}_I \), the event is understood with a strong focus on the involved activity, rather than its path or goal to the extent that indeterminate verbs can accommodate anywhere between one and a virtually infinite number of trips with their paths and goals, or abandon the notion of path and goal altogether, characterizing aimless motion or the ability to perform a specific kind of gait. At the same time, the variation in the meaning of za- appears to be sensitive to whether it attaches to a determinate or an indeterminate motion verb.

3These are the infinite forms of the verbs ḟla in (3) and xodil in (4).


Because of these contributions of aspect and determinacy, the semantics of the verb stems cannot be regarded as irrelevant for the BEGIN/END distinction in the prefixed forms (1) and (2). Furthermore, Valeeva (2001, p. 323) reports that the semantic distribution of the two meanings across the two classes of motion verbs is so robust that za-determinates never express BEGIN and za-indeterminates never express END. Still, the BEGIN/END distinction between these two verbs arises only with za-prefixation, and, therefore, it is the prefix that must be contributing the phasal specifications of beginning and termination within the more general concept of the motion event types specified by the two verb stems. What makes this a particularly intriguing phenomenon is that one and the same prefix is capable of denoting the beginning and termination of a motion event, which comprise the opposite extremes of an action or process unfolding over time.

In the following section I provide a brief overview of previous treatments of za-, which are contingently grouped under the categories of atomist, invariant, formal, and cognitive approaches. My overview in many ways follows the traditional structure of literature reviews in the area (see Braginsky, 2008; Gallant, 1979; Janda, 1986; LeBlanc, 2010), while primarily concentrating on the interrelation between the semantics of za- and motion verbs. I focus on how these approaches examine and motivate the BEGIN/END opposition in za-perfective motion verbs. I critique their methodology and ensuing predictions and propose an integrated cognitive approach of za-perfective motion verbs with roots in Cognitive Grammar.

2.2 Previous work

The prefix za- is one of the most productive verbal prefixes in contemporary Russian (Chertkova, 1996; S. V. Sokolova, 2009). Therefore, it is, perhaps, not surprising
that the polysemy of za- extends far beyond the BEGIN/END opposition in motion verbs. When combining with non-motion verbs, za- demonstrates a prolific range of meanings including but not limited to COVER in (5) and (6), FIXATION in (7) and (8), CONTROL in (9) and (10), DESTRUCTION in (11) and (12), and EXCESS in (13) and (14), among others.

(5) закрасить
za-kras-it’
za-paint-INF
‘paint over; cover with paint’

(6) заасфальтировать
za-asfal’tirov-at’
za-asphalt-INF
‘pave with asphalt’

(7) завязать
za-vjaz-at’
za-tie-INF
‘tie (a knot)’

(8) замариновать
za-marinov-at’
za-marinate-INF
‘marinate; make marinated’

(9) задержать
za-derž-at’
za-hold-INF
‘detain’

(10) захватить
za-xvat-it’
za-grasp-INF
‘occupy’

(11) забить
za-b-it’
za-beat-INF
‘kill; slaughter’

(12) заморить
za-mor-it’
za-plague-INF
‘starve (someone) to death’

(13) заговорить
za-govor-it’
za-talk-INF
‘overbear someone by talking’

(14) застряпаться
za-strjap-at’-sja
za-cook-INF-REFL
‘get carried away by cooking’

The apparent proliferation of meanings associated with the prefix za- has been long acknowledged and widely described in the literature. Most of the works typi-

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4The ‘begin to talk’ interpretation is also available here; the semantic ambiguity is resolved in context. Here I employ this lexeme to demonstrate only the meaning of EXCESS.
cally approach *za*- in the context of other spatial particles (Boguslawski, 1963; Flier, 1975; Gallant, 1979; Janda, 1986; Schooneveld, 1978) or as a part of the morphological apparatus employed in verbal derivation and expression of aspectual meaning (Braginsky, 2008; Forsyth, 1970; Isačenko, 1965; Anna Andreevna Zaliznyak, 1995; Zemskaja, 1973). Recently, there have also been a few works exploring the semantics of *za*- within the cognitive linguistics paradigm (Bacz, 2005; Janda, 1986; Tabakowska, 2003). The present work differs from previous research in two respects. First, its scope is more restricted than in the majority of previous works on *za*--; and second, it relies on the substantially different methodology of cognitive linguistics and Cognitive Grammar in particular, as developed by Langacker (1987), Talmy (2000), and Tyler and Vyvyan Evans (2003). Before I offer an overview of previous work in this area, I will comment on how these two differences define my work in important ways.

One of the key distinctions of this work from previous approaches to the semantics of *za*- is its devoted scope over *za*-perfective verbs of motion. As I show in my discussion, Russian has a subset of motion verbs that, apart from the semantic association with motion, is characterized by important and highly consistent patterns of opposition informed by the notion of determinacy, which reflects whether or not the motion event is construed as having a singular predefined destination. When exploring the semantics of *za*-, I am interested in the patterns of meaning that become apparent specifically at the level of interaction between *za*- and the two classes of motion verbs defined by determinacy. The semantics of motion verbs in the context of prefixation has been explored to a certain extent. For instance, Valeeva (2001) and Shull (2003) focus on cases, where *za*- and other prefixes modify verbs of motion. However, while Shull offers primarily a typologically oriented comparison of the expression of motion events between Russian and Czech, both authors define the class of motion verbs based purely on their semantics leaving the contribution of determinacy aside. In
that sense Shull’s and Valeeva’s works provide conclusions relevant to the superset of the class I address, which makes their generalizations too broad to identify phenomena affected by determinacy. This is particularly significant for the BEGIN/END opposition, since outside the class of determinacy-based pairs of motion verbs, the BEGIN/END opposition is far less robust. More recently, Janda (2010) offers a discussion of motion verbs framed specifically in the context of determinacy. However, her focus is limited to indeterminate stems and their combinability patterns with the full set of Russian perfectivizing prefixes. The scope of my work differs from Janda’s in that it addresses the semantic properties of za- in contexts with both determinate and indeterminate verbs of motion, and it is precisely the determinate/indeterminate opposition to which I attribute key significance for the BEGIN/END pattern in the semantics of za-.

Apart from a differently defined scope, my work also makes a methodological commitment to Cognitive Grammar. Developed by Langacker (1987, 1991) and Talmy (2000), Cognitive Grammar is a model of language structure that assumes communication and general cognitive capacities of human beings as the defining forces of language design. Previous work on za-perfectives of motion verbs has been primarily framed within the more traditional paradigm, where the meanings of the prefix are seen as either homonymous or as instantiations of a highly abstract invariant meaning. More recently, Janda (1986) for Russian and Tabakowska (2003) for Polish have offered cognitively based models of the semantics of za-, which to a certain extent utilize Cognitive Grammar as a methodological base. As I discuss Janda’s account, I demonstrate the limitations of her conclusions and propose a much more expansive and consistent utilization of the cognitive linguistics methodology.
In what follows I review previous accounts of za- according to the four general types of methodologies employed by their authors. I discuss the relevance of these approaches to the scope and methodological goals of my work.

2.2.1 Atomist approaches

Some of the earliest accounts of the semantics of za- can be found in pioneering structuralist works, where the discussion of za- is integrated into more general treatments of verbal aspect and derivational patterns of Russian verbs (Boguslawski, 1963; Isačenko, 1965; Keller, 1992; S. A. Kuznecov, 1998; Šaxmatov, 1963; Zemskaja, 1973). In spirit with the structuralist agenda, these accounts strive to exhaustively enlist all meanings associated with za- along with some of its general distributional characteristics.

The main problem with these approaches is that the methodology for describing the semantics of a linguistic unit is vague and often arbitrary since it is guided by subjective judgments grounded in unconstrained intuitions. Its one immediate symptom is a great variation in the number of meanings proposed, ranging anywhere from 7 (S. A. Kuznecov, 1998) to 12 (Keller, 1992) and up to 24 (Boguslawski, 1963). Another consequence, which is perhaps the real root of the issues with atomist approaches, is lack of a consistent strategy for identifying unique meanings. To understand just what effect it has on the atomist discussions of the semantics of za-, I will elaborate on the treatment of the BEGIN and END meanings in a few typical atomist studies.

Even though all of the accounts invariably include references to the meanings of BEGIN and END of the motion verbs, they show important differences in their exact treatment of each of these meanings. For instance, S. A. Kuznecov (1998) lists the following three meanings that accommodate for the BEGIN/END opposition in motion verbs:
za-1K Denotes the beginning of an action. 
Zaaplodirovat’ ‘begin to applaud’, zabegat’ ‘begin to run’, zaigrat’ ‘begin to play’, zalajat’ ‘begin to bark’.

za-4K Denotes the directionality of an action, or a motion behind an object. 
Zabežat’ (za derevo) ‘run (behind the tree)’, zavernut’ (za ugol) ‘turn (behind the corner)’, zajti (za dom) ‘walk (behind the house)’, zakatit’sia (za škaf) ‘roll (behind the dresser)’.

za-5K Denotes the directionality of an action, or a motion behind a boundary or far away. 
Zavesti ‘lead far off’, zagnat’ ‘drive out’, zaslat’ ‘dispatch, send off’.

First, let’s address the END meaning. As we can see from S. A. Kuznecov’s list of meanings the END meaning is represented by two separate entries za-4K and za-5K. The nature of the distinction between the two meanings is not very clear and the need to represent them separately is debatable in that both are attributed to motion events where the destination of an event has been reached. It is clear that the two meanings bear a strong resemblance to each other in that they denote an idea of a destination located behind a physical or an abstract landmark. Therefore, the difference between the two is much more a function of context and it resides rather in the semantics of the noun in the prepositional phrase expressing destination. That is, depending on whether the noun expresses a physical or an abstract boundary, the selection between za-4K and za-5K can be unambiguously predicted. From this point of view, the za-4K and za-5K distinction, in essence, pertains to noun semantics, not the semantics of za-.

The defining role of context for the meaning distinction proposed by S. A. Kuznecov goes even further. The examples for za-4K cited along the definition unanimously include prepositional phrases headed by the homophonous preposition za, e.g. zabežat’ (za derevo) ‘run (behind the tree)’, zavernut’ (za ugol) ‘turn (behind the corner)’, zajti (za dom) ‘walk (behind the house)’, etc., which suggests that za-4K is dependent on the co-occurrence with a prepositional phrases headed
by the preposition *za*. This is much more likely an indication of the fact that the meaning *za-4k* may be a reflection of the interaction between the semantics of the prefix and the prepositional phrase as a part of a encompassing construction, and only occurs in this construction. Once again, the specificity and the predictive power of the context eliciting *za-4k* raises questions about the need to identify it as a separate meaning in the semantics of the prefix. In general, the distinction between *za-4k* and *za-5k* can be attributed simply to the difference in context determined by the prepositional phrase expressing the destination.

This appears to be the view adopted in Boguslawski (1963), who among the 24 meanings offered for *za-* does not establish any two meanings maintaining the opposition that would replicate S. A. Kuznecov’s *za-4k \ za-5k* distinction. However, we do find a different distinction, which is not present in S. A. Kuznecov’s account. Based on the difference in perspective, Boguslawski distinguished between *za-2b* and *za-3b*:

*za-2b* Approaching a place characterized as distant from the starting point, which, at the same time, is the point of view from which the localization expressed by the verbs is viewed.

Zabresti ‘roam off’.

*za-3b* Approaching something…; in addition, characterizes the localization as ‘on one side’ and the translocation leading to the location as involving ‘a change in direction’, ‘a turn’.

Zaexat’ ‘drive to’.\(^5\)

Boguslawski’s motivation for distinguishing *za-2b* and *za-3b* concerns whether or not the vantage point of the observer is present at the destination of the motion event. However, it is unclear how much of the distinction is contributed by broader context such as specifying prepositional phrases and any other preceding knowledge affecting the interpretation of the expressed motion event. In my own account of *za-\(^5\)Here and in the next series of definitions I use the translation of Boguslawski’s original analysis from the discussion in Gallant (1979, pp. 22–23)
I highlight the significance of perspective for the extension of its central meaning but in doing so I rely on the cognitive principles guiding attention and perspective in humans as developed by cognitive linguistics. Without a strong theoretical basis Boguslawski’s claims, although perhaps capturing an important part of the semantics of za-, remain conclusions based on an intuitive understanding of the phenomenon. In any case, as we compare Kuznecov’s and Boguslawski’s accounts of za-’s END meaning, it is clear that how much context is incorporated into the classification of meanings plays an important role in how detailed an account of the semantics of any linguistic unit can be. Naturally, deciding where to draw the line demarcating any two separate meanings is highly subjective, and, correspondingly, the outcomes of the atomist methodology vary significantly and are neither consistent or replicable.

Now let’s turn to the BEGIN meaning. Although consistently identified by S. A. Kuznecov and Boguslawski as well as by Isačenko (1965); Keller (1992); Šaxmatov (1963); Zemskaja (1973), the BEGIN meaning of za- also presents a problematic point. Here are the entries for this meaning in S. A. Kuznecov’s (za-\textsubscript{1K}) and Boguslawski’s accounts (za-\textsubscript{15B}):

\textbf{za-\textsubscript{1K}} Denotes the beginning of an action.

\begin{itemize}
  \item Zaaplodirovat’ ‘begin to applaud’,
  \item zabegat’ ‘begin to run’,
  \item zaigrat’ ‘begin to play’,
  \item zalaiat’ ‘begin to bark’.
\end{itemize}

\textbf{za-\textsubscript{15B}} Inchoative formant.

\begin{itemize}
  \item Zavyt’ ‘begin to howl’.
\end{itemize}

In the two accounts, the meanings za-\textsubscript{1K} and za-\textsubscript{15B} are very similar to the BEGIN interpretation that I have identified for some motion verbs, but they also extend to non-motion verbs such as ‘applaud’, ‘play’, and ‘howl’. In that sense, S. A. Kuznecov’s and Bogusławski’s taxonomies of meanings are agnostic to the nature of the event; and motion events are treated as a subclass of actions whose beginning is expressed...
This feature of the taxonomies is problematic since apart from za-, some nine other prefixes in Boguslawski’s semantic description contain the “inchoative formant” as a constituent of their semantics: o-, pere-, po-, pri-, pro-, raz-, u-, voz-, and vz- and while the membership of particular prefixes in this list can be contested (for example, Zemskaja (1973, p. 292) considers only po-, vz-, and za- as purely inchoative), the more difficult question concerns the distribution of the BEGIN meaning for these prefixes: are all of these prefixes equally capable of expressing the beginning of an event, and if so, can one “inchoative” prefix be freely substituted by any other of the ten?

Krongauz (1993, 1994) and Anna Andreevna Zaliznyak (1995) have demonstrated the complexity in the patterns of prefix-stem collocations and proposed that whether or not a specific prefix can combine with a specific verb stem depends on their semantic compatibility, while the meaning selection of a prefix depends on the semantic class of the verb stem it is attached to. As far as prefixes with the “inchoative formant” are concerned, they require specific verbal stem contexts in order to be able to denote the BEGIN meaning and there are restrictions that preclude the possibility of substitution of one inchoative prefix for another. Vz-, for instance, combines with kričat’ ‘scream’ to denote ‘begin to scream’, but bežat’ ‘run’ requires po-to produce poběžat’ ‘begin to run’. Furthermore, kričat’ may combine with za— but not po—to denote ‘begin to scream’, while bežat’ ‘run’ produces the BEGIN meaning exclusively with po-. Finally, there are differences in connotations between vz-kričat’ and za-kričat’; the prefix vz- introduces the interpretation of a sudden onset of the event or its high intensity (Švedova et al., 1980, p. 370) unlike za-.

This brief overview of prefix-stem collocations points to the fact that the “inchoative

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6The transliteration here reflects the underlying phonological representation of the prefix for the purposes of consistency in the discussion. The actual conventional spelling reflects the regressive voicing assimilation of the prefix-final consonant: вскричать vs-kričat’.
ive formant"—whether in Boguslawski's interpretation pertaining to a group of ten prefixes or in the more restricted Zemskaja’s account—is too broad of a descriptor for prefix semantics, and overlooks the contribution of verb stem semantics as a key element for the distribution of prefixes.

To conclude my overview of the atomist approach, methodologically, it represents the semantics of za—or any other prefix—as a list of disjointed meanings and does not regard motivations for the existence of these meanings, potential connections between them, or the role of context as a determiner of their interpretation. These accounts appear to be intuitively guided by an attempt to exhaustively categorize and label all possible interpretations of a single linguistic unit, but, as Gallant (1979, p. 26) notes, this approach has virtually no limitations on the number of meanings that can be identified for any given linguistic unit. Furthermore, it fails to systematically identify which contexts are instrumental in triggering or restricting specific meanings of prefixes. For instance, while nominal semantics and prepositional phrase collocation patterns are employed to motivate individuation of some meanings (e.g., za-4k vs. za-5k), the differences in verb stem semantics are not (e.g., za-kričat’ vs. vz-kričat’ ‘start to scream’). In relation to my study of the semantics of za-, the atomist approach does not consider motivations for the BEGIN/END semantic ambiguity of za- or generalizations about the distribution of this ambiguity across motion verbs. Perhaps, most importantly, the atomist approach cannot and does not utilize the insight of human cognitive capacities and patterns in processing (primarily because the majority of work within this approach was done before significant advances in cognitive science were made) and, thus, is unable to ground or verify its intuitions in fundamental aspects of human cognition.
2.2.2 INVARIANT APPROACHES

A change in the approach to the semantics of Russian prefixes was systematically introduced in the works of Flier (1975), Schooneveld (1978), Gallant (1979), and more recently Paillard (1991). In a sense, these authors embody dissatisfaction with the atomists’ treatment of prefix semantics as fragmented and purely descriptive. To overcome these methodological flaws Flier, Schooneveld, Gallant, and Paillard aim to provide structured models of prefix semantics with an emphasis on connectedness for the observed range of meanings. The variation in meanings of a single prefix is, therefore, understood to be a reflection of a single abstract concept, or invariant. Furthermore, there is a conscious attempt to model the semantics in a principled manner utilizing a restricted inventory of abstract semantic features with binary properties.

As the invariant approach acknowledges interconnectedness of meanings, it does gains some new insights but they are marred by considerable limitations. The key problem of this approach is also its cornerstone characteristic: the proposition that all meanings in the polysemy network are encompassable by the invariant. As I have demonstrated with prefix za- in (5)–(14) on p. 9, the set of meanings of a prefix can be a rather eclectic collection. The meanings of za- vary in the degree of closeness to each other and just how some of these are related is not immediately obvious (e.g., BEGIN, DESTRUCTION, and COVER). The search for the unique invariant meaning that would exhaustively accommodate all and every meaning of a prefix yields semantic features so broad and abstract that the link between the concrete meanings and the invariant is often obscured and its feasibility is doubtful. This is especially evident for the proposed models of the semantics of za-. Invariant approaches are challenged by conjuring up an invariant sufficiently broad to account for the spatial BEHIND, and
the aspectual BEGIN and END meanings, but specific enough to distinguish it from the invariants of other prefixes.

For instance, Schooneveld (1978) offers an account of za- that is rooted in the feature of duplication. First off, he starts with the assumptions that prefixes and prepositions constitute a single class leading his discussion of za- to be closely tied to the semantics of the cognate preposition za with the spatial sense behind. Another assumption in his framework is that a set of marked and unmarked semantic features governs relationships between the modified (for the purposes of the discussion here, it could be broadly compared to topic in the topic-comment dichotomy) and the modifier (comment) and can be used to describe, for example, the structure of a noun phrase with a prepositional modifier. In (15) then ‘the house’ is the modified and ‘the tree’ is the modifier with the prepositional phrase headed by za:

(15) Дом za деревом.
    Dom za derev-om.
    House-NOM.SG za tree-INSTR.SG.
    ‘(The) house behind (the) tree.’

According to van Schooneveld, what za contributes semantically here is the duplication relationship between the two nouns, which “signalizes the separate [emphasis added] perception of the modifier from the perception of the modified” (Schooneveld, 1978, p. 88)—or, the duplication of perception, as the term suggests. In other words, the scene here assumes that the speaker perceives two entities as separate from each other; there is “not one amalgamated perception at the end of the ‘modification period’” (p. 21). Finally, because of the separate perception of the two, the modifier and the modified are perceived in sequence, the modifier (‘tree’) first and the modified (‘house’) following it. This is where, van Schooneveld argues, the spatial BEHIND meaning of the preposition za arises from: as the house is perceived after the tree, the
speaker derives the ‘behind’ interpretation of the spatial arrangement between the two objects. It is the duplication of perception that sets za apart from other prepositions. For instance, na (‘on’) and v (‘in’) are unmarked for the feature of duplication and do not “specify whether in then given sentence the locations of the prepositional modified and prepositional object are amalgamated or not during the process described” (p. 20). The same principle works for the prefix za-: the process denoted by the verb can serve as the modifier and the modified, showing that at the end of the event the result is separate from the process that it took to reach the result.

Van Schooneveld’s model is admittedly an incredibly complex structure engineered to be a self-sustainable mechanism of representing a wide range of linguistic phenomena. Apart from its rather cryptic nature, Schooneveld’s binary matrix of particle oppositions may otherwise appeal as an elegant—even aesthetically pleasing in its rigorous symmetric structure—solution based on a constrained set of semantic features. However, it is evident that at least in respect to its account of za- the model becomes a victim of its own structural restrictions. And while a thorough critique of the backbone assumptions of this model is well beyond the scope of this work, I will focus specifically on the drawbacks of Schooneveld’s account of za-.

First of all, the notion of duplication as the distinctive feature of za fails to be a reliable predictor of the construal in a spatial scene. For instance, van Schooneveld claims that unlike na (‘on’) and v (‘in’), za necessitates that the modifier and the modified not be perceived together; there is no “amalgamation” between the two. However, it is difficult to claim that this distinction holds in all cases, as the ubiquitous invariant would presuppose. That is, if duplication is claimed to be indeed the feature that sets apart na (with the value [− duplication]) and za (with the value

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7Apart from prefixes and prepositions, Schooneveld develops treatments of case, conjunctions, and even such notions as transitivity all based on a restricted set of semantic features and recurring structural mechanisms (see Schooneveld, 1978, pp. 242–249).
[+ duplication]), then the set theory underlying the invariant approach would presuppose that all occurrences of these two prepositions maintain this distinction, which is contested, for example, by sentences in (16) and (17).

(16) Ян взял её за руки.
Jan vzja-l-∅ e¨ za ruk-i.
Ian took-PAST.MASC.SG. her za hand-ACC.PL.
‘Ian took her by the hands.’

(17) Ян взял её на руки.
Jan vzja-l-∅ e¨ na ruk-i.
Ian took-PAST.MASC.SG. her na hand-ACC.PL.
‘Ian took her on the hands.8 (Ian took her into his arms.)’

The preposition na in (17) highlights the support that the arms lend in holding somebody as if providing an abstract notion of a surface restricting the effects of gravity. The conceptualization is different for za in (16) which expresses the clasping of hands with a major part of the surfaces of the two hands being in immediate contact with an implication of control that Ian has over her hands. The amalgamation, whether in its pure physical sense or the more abstract sense of Gestalt perception, is present in both examples to some degree, but how closely—and whether—the two objects are amalgamated can be determined subjectively at best. Even though van Schooneveld insists that in instances like (16) za- positively signifies the absence of unity between the modifier and the modified (compare his discussion on p. 21), it not unreasonable to consider a perceptual image of two clasping hands with interleaving fingers as an equally, if not more, amalgamated entity than an image of a child held in hands (such as in (17)). What this shows it that the notions of support and control coming from the use of the two prepositions are equally suitable candidates

8Russian does not distinguish between arms and hands in this context, using a generic term that generalizes over both. This is a more direct translation intended to highlight the parallelism of the sentences between (16) and (17).
for claiming an “amalgamation” of two objects, which puts this use of za- outside of the realm of van Schooneveld’s duplication feature as its invariant. Therefore, at least with this understanding of duplication it is impossible to make a strong case that separability of the modifier and the modified is a true predictor of whether za or na would be used in a given context.

A similar problem plagues Gallant’s treatment of Russian prefixes as he attempts to establish a feature-based account of the prefix vz- (Gallant, 1979). By contrasting vz- with other prefixes, he establishes early on apparent similarities between vz- and za- in that both share the ability to denote an onset of action (recall similar claims in Bogusławski (1963), S. A. Kuznecov (1998), Zemskaja (1973)). Gallant ascribes the similarities between the two prefixes to their shared feature of [+ transgression]. He postulates that the difference is in the kind of transgression involved, which in the case of vz- is [+ horizontal] and in the case of za- is [+ vertical]. Faced with a limited series of contexts where this opposition is a reliable predictor of the za-/vz- distribution among verb stems, Gallant eschews a literal understanding of the [+ horizontal]/[+ vertical] opposition and assigns to it the abstract value of “naturalness” of an outcome in a transgression event:

The vertical axis expressed by the prefix за- represents a conventional or comparative limit or threshold. The за- features [+ vertical + transgression] can specify an enormous number of (usually intransitive) verbs denoting activities for the notion of onset of activity. The horizontal axis, on the other hand, represents a natural or evaluative limit or threshold. . . The вz- features [+ horizontal + transgression] can specify relatively few kinds of verbs for the notion of onset of activity: verbs denoting turbulent motion. . . , expressive animate sounds. . . , and unpleasant emotions. (Gallant, 1979, pp. 266–267)

The distinction between the more abstract connotations of the features [+ horizontal] and [+ vertical] is neither convincing or consistent. It is difficult to intuit the
principle that distinguishes between “a conventional or comparative limit or threshold” and “a natural or evaluative limit or threshold” or in what way a conventional threshold is comparative but not evaluative, since—in principle—any act of comparison is based on evaluation. Gallant does not offer any reasoning supporting this dichotomy other than listing semantic classes of verbs that have collocational preferences with either of the prefixes. His argument for distinguishing the differences in the notion of onset of activity—what I have been referring to as the BEGIN meaning—expressed by za- and vz- remains at its heart a description of the contexts where the two occur, and it is these contexts that are used to define the abstract connotations of the [+ horizontal] and [+ vertical] features. In effect, the category of verticality appears to be a highly subjective, circular, and ill-defined notion, struggling to reconcile the literal spatial values of the [+ horizontal] and [+ vertical] features and the non-spatial meanings of za- and vz-.

Schooneveld also encounters difficulties in elaborating the BEGIN meaning of za- as a natural continuation of the invariant based on the duplication feature. He proposes a duplication of the verbal process whose onset is expressed by za- with the BEGIN meaning:

This type of za- refers, as do the other types, to the situation a substantivity [an agent] will find itself at the end of the verbal process, but there is a difference: here this substantivity is the very actuality of the verbal process. Zakričat’ ‘to begin to shout’ means that in order to reach the final situation, “shouting”, the preceding stage is “shouting”. Zakričat’ means, then, ‘to shout beyond shouting’, or, rather, to shout in such a way that the shouting will pass the initial factuality of shouting’. (Schooneveld, 1978, p. 88)

As much as this reasoning is in line with the duplication feature, it misrepresents the event structure of verbs denoting the onset of an event. Construing an onset of an
event relies on the recognition of its opening temporal boundary and in contrast with the preceding state where the event is not taking place. It is unclear how the BEGIN meaning can be entailed from a sequence of two stages of “shouting”, or “shout beyond shouting”. To use van Schooneveld’s defintion convention, za- rather denotes “to shout beyond non-shouting”; however, such definition runs contrary to Schooneveld’s duplication feature as the invariant meaning of za-.

Apart from being unable to convincingly account for the variation in meanings of a single prefix, van Schooneveld’s model falls short on the promise of incorporating all meaningful oppositions motivating the semantics of Russian prefixes and prepositions. Schooneveld’s decision to treat prefixes and prepositions as one class is a an important insight, one that I will capitalize in my own exploration of the semantics of za-, but it limits the generalizability of his account only to morphologically simplex prefixes and prepositions, most of which share phonological surface forms. At the same time, as Tyler and Shakhova (2008) have demonstrated, some of the distinctive features in the semantics of za reveal themselves in an opposition with the preposition pozadi. For instance, the difference between (18) and (19) relies on how proximal Sonya is in relation to the table.

(18) Соня сидит за столом.
Sonj-a sid-it za stol-om.
Sonya-NOM.SG sit-PRES.3P.SG. za table-INSTR.SG.
‘Sonya is sitting at the table.’

(19) Саша сидит позади стола.
Saš-a sid-it pozadi stol-a.
Sasha-NOM.SG sit-PRES.3P.SG. pozadi table-GEN.SG.
‘Sasha is sitting behind the table.’

However, the proximity here is not just a physical or measurable variable, it has consequences on how the interaction between Sonya and the table is evaluated (cf.
Vandeloise's notion of functional element (Vandeloise, 1991)). 

*Za* presumes that the agent is facing the table and is in the location where there is a potential of interacting with it or utilizing it for any purpose (such as work at the table, or have dinner). 

*Pozadi* on the other hand blocks any possible interaction of such nature. This difference between *za* and *pozadi* is evidently a crucial part that is not immediately derivable from the proposed duplication invariant. Even more, Schooneveld does not include *pozadi* in his description of the prefix-preposition system of the Russian language\(^9\), and perhaps partially for this reason does not gather the necessary range of basic spatial distinctions that have implications for the system of Russian spatial particles. What aggravates this situation is that the Russian language has many more prepositions other than *pozadi* that did not make it to Schooneveld’s account (for instance, *iz-za* ‘from behind; because of’, *iz-pod* ‘from under’, *dlia* ‘for’, *vdol* ‘along’, *meždu* ‘between’, *mimo* ‘by; past’, *naprotiv* ‘across from’, *vokrug* ‘around’, *vozle* ‘near’, just to name a few), and even though there are good reasons to focus only on a smaller group of prepositions at one time, the scope of Schooneveld’s work envisions to cover any and all sets of relevant relations underlying Russian prefixes and prepositions as a unified system. As I have demonstrated it cannot achieve this goal precisely because not all prefixes and prepositions are considered, which compromises the integrity of the whole set of proposed semantic features. Therefore, it fails precisely where it is intended to excel.

Closing my discussion of the invariant approach, we can see that works within this approach, while offering some of the first coherent accounts of motivations informing prefix semantics, suffer from restrictions imposed by the rigidity of the invariant

\(^9\)There appears to be no explicit reasoning for selecting the set of the prepositions and prefixes that van Schooneveld includes in his analysis. I assume they were chosen primarily based on their salience and morphological simplicity, features that have been used to identify the core prepositions in Russian traditionally (cf., Švedova et al. (1980)).
meaning. The prolific polysemy of Russian prefixes requires that the invariant meaning be extremely abstract with labels like “duplication” and “transgression” supplied to mnemonically evoke the invariant encompassing all meanings within the set of semantics of a given prefix. At the same time due to the abstractness of the proposed invariants and lack of restricted methodology for identifying them, the distinctions between invariants are as ephemeral as the invariants themselves; in their argumentation authors inadvertently seem to fall back on the semantics of the chosen labels rather than explicit reasoning about the conceptual representation (e.g., van Schooneveld’s use of duplication to justify BEGIN meaning of za-). Furthermore, because the invariant approach relies on set theory, any instances that do not follow a general pattern automatically undermine the validity of the proposed invariant. For instance, even though the restrictions on prefix–stem combinability are considered by Flier and Gallant, both authors have to concede to a substantial number of apparent exclusions and exceptions. Likewise, failure to convincingly show exactly how duplication entails the BEGIN meaning puts van Schooneveld’s account to question. The inherent antagonism between the fluidity of prefix semantics as reflected in their polysemy and the strict rigidity of the invariant approach with its set theory based methodology testifies to the need of a qualitatively different approach. Without an understanding of the cognitive mechanisms guiding human cognition and a systematic grasp of the aspecutal, verbal, and prefixal semantics, many conclusions of the invariant approach prove to be arbitrary and unsatisfactory.

2.2.3 Formal approaches

A new body of work addressing the semantics of Russian prefixes has emerged in recent years (Braginsky, 2008; Bremel, 1997; Filip, 1999, 2003; Ramchand, 2004; Romanova, 2004; Svenonius, 2004; Tolskaya, 2007). These studies are by no means uni-
form in their approach, but they do share a number of fundamental assumptions about language which bear a strong formalist identity and affect the analysis of za- and other prefixes in similar profound ways. In particular, the formal models treat semantics as a parameter in syntax-driven structure of the language and since “...the mapping of syntactic representations onto conceptual structures is uniform for all languages (linguistic variation being generally restricted to syntax, phonology, and the lexicon), the best analysis...is one..., in which two different languages’ syntactic representations for the same conceptual structures are the same” (Svenonius, 2004, p. 213). In line with this position, aspectual phenomena are accommodated by incorporating them into the underlying syntactic composition, which is assumed to be a cross-linguistic constant. What this means for the semantics of prefixes is that variation in their meanings is seen purely as a function of their position within the syntactic tree. As such the underlying goal of formal approaches is to account for prefix polysemy that would be consistent with the restrictions and predictions of syntactic theory.

The formal approaches have an extensive heritage and offer rigorous accounts of semantics based on truth-conditional interpretation of events. A critique of the underlying assumptions of the formal approaches is not the goal of this work and has been explored extensively elsewhere\(^{10}\), however, I will offer a critique of these approaches as it pertains to the semantics of Russian prefixes and za- in particular.

The main assumption guiding formal accounts is that Russian prefixes fall into one of the two categories: lexical and superlexical. This idea is a syntax-backed reincarnation of a similar claim proposed in Isačenko (1965), Forsyth (1970), and Townsend (1975). The two groups differ in two respects. First, in terms of their semantics, lexical

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\(^{10}\)See DeLancey (1994); Lakoff (1987); Langacker (1987) for a critique of formal treatment of the lexicon and categorization and Fauconnier (1994, 1997) for a critique of formal event semantics.
prefixes have “resultative meanings, often spatial, but often idiosyncratic”, whereas superlexical prefixes are characterized as “having aspectual and quantificational meanings” (Svenonius, 2004, p. 205). Second, in regard to their morphosyntactic properties, lexical prefixes allow the formation of secondary imperfectives\textsuperscript{11} and cannot stack, whereas superlexical prefixes preclude forming secondary imperfectives and can stack (Romanova, 2004, p. 257).

A key consequence of setting up the lexical vs. superlexical opposition as persistent throughout the class of prefixes is that many Russian prefixes have to be seen as being instantiated in both subclasses “with interpretations different enough to provoke a suspicion of homophony” (Tolskaya, 2007, p. 346). Tolskaya identifies at least seven prefixes whose behavior can be accounted only by the existence of the separate lexical and superlexical meanings. The semantic and morphosyntactic differences between the two classes are thought to be as distinct as with prepositions that share the same phonological form. As a result, for every one of seven phonological units one can identify separate lexical, superlexical, and prepositional representations, each with its own set of semantic features. We find a paradigm of proposed meanings for the three classes in Tolskaya’s account, which I reproduce in Table 1.

Crucially for my analysis, za- is assumed to be a pair of homophonous instantiations which effectively separate the BEGIN meaning (the superlexical “inceptive”) and the END meaning (the lexical “occlusive”). The choice of the lexical vs. superlexical variant is determined by the position of the prefix in the syntactic structure in relation

\textsuperscript{11}Secondary imperfectives constitute a class of verbs where the prefixed perfective verb is imperfectivized by an imperfectivizing suffix such as -iv-/-yv-. E.g., za.PERF-kraš-it’ −→ za-kraš-iv.IMPERF-at’. The term “secondary” here refers to the tendency of unprefixsed Russian verbs to be imperfective by default. In that sense, unaffixed verb stem are implicitly understood as primary imperfectives, which when undergoing prefixation turn perfective and with suffixation regain their imperfectivity: unaffixed imperfective prefix \textsuperscript{prefix} \rightarrow \textsuperscript{perfective} suffix \textsuperscript{suffix} secondary imperfective.
<table>
<thead>
<tr>
<th>Prefix</th>
<th>Lexical meaning</th>
<th>Superlexical meaning</th>
<th>Preposition meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-</td>
<td>adlative</td>
<td>completive</td>
<td>up.to</td>
</tr>
<tr>
<td>za-</td>
<td>occlusive</td>
<td>inceptive</td>
<td>behind</td>
</tr>
<tr>
<td>ot-</td>
<td>ablatie</td>
<td>completive</td>
<td>from.near</td>
</tr>
<tr>
<td>s-</td>
<td>superlative</td>
<td>‘there and back’</td>
<td>from.on</td>
</tr>
<tr>
<td>pro-</td>
<td>perdurative</td>
<td>duration</td>
<td>about</td>
</tr>
<tr>
<td>po-</td>
<td>inceptive</td>
<td>limited duration</td>
<td>along, according to</td>
</tr>
<tr>
<td>pere-</td>
<td>translative</td>
<td>excessive duration</td>
<td>(does not exist)</td>
</tr>
</tbody>
</table>

Table 1: Lexical and superlexical prefixes, adapted from Tolskaya (2007, p. 347)

to the aspectual node (Asp) such that lexical prefixes attach below the aspectual node (as represented in Figure 1) and the superlexical prefixes attach above the aspectual mode (as represented in Figure 2). The hierarchical differences are therefore understood to determine the resolution of homophony ambiguity between the two types of za-, while the preverbal position of both prefixes in the surface form is accommodated by the movement mechanism as the syntactic structure is mapped onto the surface representation. Specifically, to obtain the proper preverbal position in the surface form, the lexical za- has to move up the tree structure from its sister position next to the preposition phrase (Figure 1).

The hierarchy-derived distinctions between two prefix classes are also employed by Tolskaya to motivate the distinction of the begin/end opposition across motion verbs as she observes that “the lexical prefixes, cooccurring with directional [determinate] verbs, and the superlexical prefixes, cooccurring with non-directional [indeterminate] verbs, are in complementary distribution” (Tolskaya, 2007, p. 346).

A careful analysis of the predictions arising from the bipartite division of Russian prefixes into the lexical and superlexical classes shows that while they can capture some generalizations in prefix distribution, in many ways they are problematic. First
of all, most authors admit that the categorical predictions of their models cannot realistically account for the actual behavior of prefixes. For instance, there is evidence that not all superlexical prefixes deter secondary imperfectivization (Ramchand, 2004; Romanova, 2004); many superlexical prefixes show a strong degree of semantic “idiosyncrasy”, while the notion of prefixal meaning “idiosyncrasy” itself is difficult to gauge (Svenonius, 2004); the superlexical na- and pri- attach much lower in the tree than expected Romanova, 2004, p. 275; the “inception” meaning has to be understood as either a lexical (with po-) or a sublexical (with za-) instantiation depending on
the prefix (Tolskaya, 2007); and the lexical “occlusive” is too broad to meaningfully accommodate for the distinct spatial (in contexts with motion verbs) and resultative meanings of za- (Braginsky, 2008).

However, the main disadvantage of this approach concerns its assumption that the polysemy of prefixes is a reflection of consistent homonymy and is resolvable only by locating the attachment of the prefix in the syntactic tree. As the formal approaches capitalize on the lexical vs. superlexical strata in the semantics of prefixes and emphasize the difference between the two classes, they neglect the fact that the apparent homonymy is a highly persistent phenomenon characteristic of at least seven pairs
of prefixes. While there may be some merit in classifying the meanings of the perfectivizing prefixes as belonging to one of the two groups, little is gained in terms of generalizability since the precise difference in the semantic and morpho-syntactic characteristics of the lexical and superlexical categories are hardly categorical, have been shown to reflect rather the difference between quantized and non-quantized predicates (for example, Součková (2005) for the Czech po-), and could be accommodated by the prototype theory at best (see, for instance Filip (1999), as she advocates the use of prototype theory for the formal study of aspecutal meaning). Moreover, the two instantiations of the same prefix not only display identical phonological behavior but have been shown to share many phonological (Gribanova, 2008), semantic (Bacz, 2002, 2005; Tabakowska, 2003), and morphosyntactic (Matushansky, 2002) similarities with the corresponding prepositions. The persistence of similarities across these various representations of the same phonological forms suggest that the common features of lexical and superlexical prefixes as well as prepositions are more than a mere coincidence; by adapting the homonymy view, the formal approaches dismiss a series of important phenomena, which could be crucial for addressing some of the limitations that formal accounts face.

The disadvantages of putting semantics outside the scope of the formalist paradigm is also evident in Tolskaya’s discussion of prefixed motion verbs (Tolskaya, 2007). Developing an account of semantic differences in prefixed motion verbs, she defines the distribution of lexical vs. superlexical meanings of the seven pairs of homophonous prefixes as complementary across the determinate and the indeterminate subclasses of motion verbs. While she proposes that this distribution pattern is a reflection of the syntactic properties of the two classes of prefixes, her proposal does not consider the effects of the verbal stems on the distribution. Since the distribution of prefixal meaning follows the determinacy feature of the given motion verb, a
thorough account of the semantics of motion verbs and the contribution of the notion of determinacy to their semantics is necessary before any meaningful generalizations about prefix semantics can be proposed. As I show later in this work, the semantic grounds underlying the determinacy based opposition of two classes of motion verbs plays a pivotal role in the polysemy of \textit{za-}.

Another problem with relegating the meaning variation of \textit{za-} to the position within the syntactic structure is that it introduces separate nodes and movement invisible in the surface representation. In particular, \textit{za-} is proposed to modify the aspecutal meaning of the sentence in fundamentally different ways as its lexical and superlexical instantiations occupy different slots in relation to the aspectual node and the verb itself (see Figures 1 and 2). Because of this difference, perfectivity and prefixation are understood to comprise discrete components in the syntactic structure, whose hierarchical ordering in relation to each other produces the inceptive/occlusive variation. However, since verbal prefixation as a morphological process in Russian consistently entails perfectivization, it is questionable whether separating perfectivity and prefixation is justified.

The motivation is weak, too, for proposing that the instantiations of \textit{za-} be located in different parts of the syntactic structure. For the lexical \textit{za-} it requires, first, a demotion from its surface position down the tree to a postverbal position, and, second, a subsequent movement operation to bring it back to the preverbal position in the surface form (see Figure 1). Since prefix \textit{za-} in all of its instantiations always occurs preverbally, the formal approaches introduce unnecessary machinery of implicit structural differences between the lexical and the superlexical instantiations and the movement operation to regain their phonological identity. It is evident that apart from fulfilling approach-internal prerequisites carried over from the assumed theory of syntax, divorcing aspectual value from prefixation and locating lexical and
superlexical prefixes in different parts of syntactic hierarchy do not offer a convincing
motivation for the semantics of za-.

On the whole, the formal approach is dissatisfactory in relegating the problem
of the lexical vs. superlexical choice to the mechanisms of syntactic derivation from
within the deep structure. In essence, most of the work in this area is devoted to
discovering an elegant mechanism that would link the surface meaning of the prefix
with the variation in the underlying syntactic structure. This is an honorable quest,
albeit limited to the confines of the formal view of syntax as the pervasive generator of
language structure. It is clear that outside the formal methodology, the issue remains
unresolved, which is, why prefixes—apparently, rather consistently—demonstrate the
bipartite distinction in the meanings; and, perhaps most earnestly, why identical
surface forms are consistently employed by language to represent what is claimed
to be such fundamentally different classes of meaning. The fragmented treatment of
language structure prevents the formal approach from performing an examination of
the contributions from and interaction between the semantics of aspect, motion verbs,
and za- as the defining elements in prefix polysemy.

2.2.4 COGNITIVE APPROACHES

The semantics of za- has been explored to a certain extent within the cognitive
linguistics methodology. Most notably, Janda offers one of the first systematic ac-
counts of Russian prefixes grounded in cognitive linguistics (Janda, 1986). For Polish,
Tabakowska and Bacz have proposed unified accounts of the prefix za- and the prepo-
sition za (Bacz, 2005; Tabakowska, 2003, 2010). All of these accounts in one way or
another take spatial configuration as an important motivating component defining the
semantics of za-. At the same time the variation in its meaning is seen as a reflection
of polysemy; all the meanings of za- in these accounts are necessarily related.
In this overview I will focus specifically on Janda’s approach as more relevant for my discussion. For one thing, even though Polish and Russian have many similarities in prefixal behavior, the more specific instantiations of the semantic extensions in spatial particles – such as the BEGIN/END opposition for za- – show “diachronically explainable . . . but not predictable” variation across Slavic languages despite their common spatial origins in the Old Church Slavonic (Šarić, 2001, p. 18), while the actual semantic content of the aspecutal meaning in these languages is far from being uniform (e.g., see Dickey, 2000 for an extensive discussion of aspecutal differences between various branches of Slavic languages). Also, because Janda’s account is one of the first cognitive examinations of spatial particles in Russian, her book is widely known and still tremendously influential on the state of research in Russian spatial particles. The aim of my overview here is to identify areas of Janda’s analysis pertaining directly to the BEGIN/END opposition in motion verbs.

In her 1986 book Janda provides a detailed cognitively informed account of the Russian prefixes za-, pere-, do-, and ot- in the context of verbal derivation. The model guiding her discussion is what she identifies as “modified structuralist”\textsuperscript{12}. In essence, Janda’s model inherits from the structuralist—or invariant—view the commitment to encompass all sets of meanings in the polysemy network of a prefix. The “modified” component refers to Janda’s recognition of the inflexibility of the original invariant methodology and so she insists that a motivated account should accommodate “both the diversity and unity of prefix semantics” (Janda, 1986, p. 242). To be able to capture both the diversity and unity, Janda incorporates a number of insights from cognitive linguistics, namely, the Lakoffian recognition of metaphor as one of the organizing principles of human categorization; the understanding that prefix se-

\textsuperscript{12}Janda uses the term “structuralist” in relation to what I have termed the invariant approach.
Figure 3: The polysemy network of za-, adapted from Janda (1986, p. 79); labels next to dashed arrows represent the mechanism of extension from one configuration to another.

...mantics display prototype effects; and Langacker’s view that the meaning of a spatial particle is a particular arrangement of a relationship between a Trajector (TR), or an idealized element in focus, and a Landmark (LM), or a ground element anchoring the TR.

The proposed networks have a two level representation. First, there is a series of spatial configurations that display family-resemblance transformations as they ultimately link back to the prototype configuration. These configurations are largely imagistic as they capture the spatial arrangement between the TR and the LM. Sec-
ond, configurations are specified by meanings\textsuperscript{13}, which represent semantic elaborations of the spatial configuration; many of them are rather abstract. The filled out semantics network of \textit{za-} is shown in Figure 3. Here nodes C1 through C5 represent the five basic spatial configurations, while nodes 1.a through 5.a represent the proposed meanings motivated by one of five spatial configurations.

Configuration 1 is the prototype in the polysemy network of \textit{za-}, which I reproduce in Figure 4 from Janda (1986, p. 78). Here the TR is situated against the LM domain. The boundaries of the LM give rise to another domain which proves to be central for Janda’s analysis. In particular, the area internal to the landmark is the domain; the area outside the landmark is the extradomain. The two areas possess characteristics in relation to the “normalcy” feature, where the domain represents the normal, baseline environment of the trajectory and the extradomain is the out-of-limits area qualitatively different from domain which restricts the freedom of TR’s movement. The arrow represents the trajectory of the TR as it leaves the domain. The trajectory is considered to be deviant, requiring effort (which translates to agent’s volition) to overcome the inertia and cross the boundaries of the landmark. Finally, TR’s leaving the domain is “either completely irreversible or difficult to reverse” (Janda, 1986, p. 81). Configuration 1 is instantiated by a group of five meanings motivated by the interaction of TR and LM in relation to each other and the extradomain: \textsc{Deflection, Fix, Change of State, Excess, Inchoative} and \textsc{Exchange}. As for the relationship between the prototype configuration and the rest of configurations in the network Janda makes a case for a constrained principle of configuration “transformations” with links from the central prototype in that for all fourteen configuration extensions of the four prefixes the links between the configurations are regulated by either differences in dimensionality (e.g., from a two-dimensional \textsc{Cover configuration-}

\textsuperscript{13} Janda consistently uses the term “submeaning” in this context.
Figure 4: The prototypical configuration of *za* in C1, adapted from Janda (1986, p. 78); the shaded area represents the extradomain

Having established the groundwork assumptions of Janda’s model, let us inspect her account of *za-* in relation to the BEGIN/END semantic opposition. The **INCHOATIVE** meaning is Janda’s representation of the **BEGIN** meaning, which she associates with the class of events denoting “movement, noise-making, other activities” (Janda, 1986, p. 112). As far as the mechanism responsible for the possibility of this extension is concerned Janda provides two competing explanations. One identifies the agent as the LM and the TR is the action which remains an unseen potential of the LM. With the vantage point (or “reference point” in Janda’s terminology) in the extradomain, the potential is revealed when the action (TR) leaves the boundaries of the agent (LM) thus transcending the domain boundaries into the extradomain. Ultimately, it is the revealing of the potential that gives rise to the **INCHOATIVE** meaning. The second explanation is briefly articulated and involves a construal under which the LM represents the non-activity state which the agent (TR) abandons as it enters
the extradomain representing the action denoted by the verb stem. The INCHOATIVE reading is thus motivated by the qualitative differences in the nature of states assigned to the domain (LM) and the extradomain.

As far as the END meaning is concerned, after a careful examination of Janda’s network I failed to find any discussion or acknowledgment of it. A specific use associated with DEFLECTION is by far the closest and only instantiation I could identify as related to the END meaning. In particular, as Janda discusses a series of motion verbs prefixed with za- (e.g., za-jdja, za-walk) she focuses exclusively on the DROP-BY meaning frequently associated with this class, as is exemplified in (20.1) (adapted from Janda (1986, p. 82)):

\[(20) \text{ Заидя v магазин я увидел }\]
\[
\text{ Za-jdj-a v magazin ja uvide-l-∅} \\
\text{ Za-walk-ADV. in store-ACC.SG. I saw-PAST.MASC.SG. } \\
\text{ tolp-u.} \\
\text{ crowd-ACC.SG. } \\
\]
1. ‘As I stopped by the store, I saw a crowd.’ (DROP-BY)
2. ‘Upon walking into the store I saw a crowd.’ (END)

The DROP-BY meaning of za- in (20.1) is one of the salient elements in its semantic network, particularly because it cooccurs with high-frequency verb of motion (cf. Forsyth (1963)). It denotes an event where the agent deviates (hence, Janda’s categorization of this specific meaning under the DEFLECTION category) from some predetermined trajectory to stop by, or “drop by” a location. One of the possible interpretations of the example in (20) is that the agent has a broader destination in mind, but deviates from the planned itinerary for a temporary stop at the store (20.1). However, this is not the only possible interpretation. As Anna Andreevna Zaliznyak (1995) shows, in contexts like (20), za- may simply express the idea that the agent terminated his path inside a specific location; in this case there is no assumption of
deviation from a predetermined path (20.2). The second interpretation is, in fact, what I have been identifying as the END meaning of za-. Moreover, precisely which meaning is expressed by a sentence in (20) largely depends on broader context and could express either the idea of stopping by—which would then render the translation in (20) to ‘As I stopped by the sore, I saw a crowd’—, or simply reaching a destination (‘Upon walking into the store I saw a crowd’).

While I do not contend the need to identify the DROP-BY meaning of za-, there are at least two disadvantages for not identifying the END meaning in the network of za-, even if we consider ambiguous sentences like (20). I provide an elaborate discussion of my reasoning later in the dissertation but it will suffice to say here that the DROP-BY meaning has a rather limited context of occurrence, while it relies on a far more complex conceptual configuration than does the BEGIN meaning. In terms of contexts of occurrence, DROP-BY is frequently found in verbs denoting faster and more conventionally anthropomorphic motion events, like ‘walk’ and ‘run’, but is very uncommon—if at all registrable—with ‘crawl’, ‘swim’, and ‘climb’. Therefore, Janda’s DEFLECTION configuration as defined to apply to all “movement” contexts unrestrictedly is overgeneralized and incorrectly predicts ‘crawl’, ‘swim’, and ‘climb’ to express the DROP-BY meaning. Also, the conceptualization of a subevent involving a deviation from a path within a larger encompassing motion event involved in the DROP-BY meaning is arguably much more complex than the conceptualization of reaching the destination point of a motion event, as per the END meaning. What this tells us is that the DROP-BY meaning is very likely an entrenched extension of the more basic END meaning. In that case, if we commit to the notions of radial categories and prototype effects as the organizational principle underlying the semantic network of za—as is one of defining characteristics of Janda’s modified structuralist approach—accounting for the most prototypical meanings takes structural precedence over the
extended meanings. That is, establishing the nature of the more basic, more prototypical meanings is a compulsory prerequisite for modeling the polysemy network as we establish the nature of motivated extensions demonstrating a more abstract, specific, restricted meaning. By omitting the DROP-BY meaning, Janda’s network of za- not only misses an important component of the semantics of za- but also calls into question the integrity of the foundations of the network itself: does END constitute one of the major configurations or meanings? How would the network change if we were to include the END meaning, for instance, vis-à-vis the DEFLECTION configuration that motivates the DROP-BY meaning in the original model? As we attempt to uncover the mechanism that motivates the BEGIN/END opposition within the polysemy of za-, Janda’s network model proves to be unsatisfactory.

Another symptom of incompleteness of Janda’s network is the fact that while the network accounts for the BEGIN meaning, it avoids explicit treatment of motion verbs and the category of determinacy; for the distribution of the INCHOATIVE meaning Janda lists “movement, noise-making, other activities” as the triggering contexts (Janda, 1986, p. 112). It is evident that “movement” is too broad of a category to be defined as the triggering context, especially considering the fact that even without an account of the END meaning, in Janda’s model, different meanings within the same configuration (C1) can modify movement verbs to denote both the DEFLECTION meaning (and more specifically, DROP-BY) and the INCHOATIVE meaning. Janda’s model makes no predictions in respect to the distribution of these two meanings, virtually licensing any motion event prefixed with za- to be expressly ambiguous between DROP-BY and INCHOATIVE. I have shown above that verbs semantically denoting movement or motion processes constitute a superset of a restricted category of motion verbs motivated by the notion of determinacy. This latter set represents a robust grammatical category of verbs with its characteristic semantic, paradigmatic,
and morphological features. Among these features is the fact that za-’s distribution of the BEGIN/END meanings is predictable by whether a verb is determinate or indeterminate. It is only indeterminate verbs of motion which acquire the BEGIN—Janda’s INCHOTATIVE—meaning when prefixed with za-, while determinate motion stems are characterized as denoting reaching the destination, or END. Janda’s account misses these important differences.

Although Janda’s modified structuralist approach is envisioned as a departure from the inflexibility of the invariant approach we find in Schooneveld (1978), Gallant (1979), and Flier (1975), in many respects Janda’s model still retains many disadvantageous aspects of the invariant approach. Despite the insight that the polysemy of za- is assembled as a radial category with separate but related members, what principally informs her method in building the polysemy network is the search of the prototype which in many respects resembles the invariant. One of the symptoms of lingering invariantism is the fact that the prototype configuration is extremely abstract, never quite receives a specific meaning representation (it is only a “spatial configuration” C1), and is seen as the sole motivator for the overall network organization.

Furthermore, the unclear origins of the notion of “normalcy” that Janda associates with the boundary between the LM (“domain”) and the “extradomain” raise questions about its prototypical status in the central configuration. Without an in-depth discussion of what the notion of normalcy entails and how it relates to human experience and categorization, its contribution to meanings like Fix, INCHOTATIVE, CHANGE OF STATE, COVER remains unclear. The problematic status of normalcy is particularly evident in Janda’s account of the INCHOTATIVE meaning. The two perspectives on the mechanism responsible for the INCHOTATIVE meaning in Jadna’s analysis—as per our earlier discussion—are equivocally based on the category of normalcy as their moti-
vating notion. Normalcy, however, has a questionable contribution for the distinction between the states of activity and non-activity. In particular, if the domain—as in Figure 4—is considered to represent the “normal” state of an agent while the extradomain is considered to represent its “deviant” state, one would require a well articulated set of motivations to claim that not engaging in an activity is the normal state for an agent, and not vice versa. The contradictory status of such prediction becomes particularly apparent if we consider, for instance, (za-xodit’, ‘start working’), which is used when describing a clock undergoing a transition from a non-working to a working state when being wound. Under Janda’s analysis then the working state of a clock would be considered a deviation from the clock’s non-functioning state; however, this prediction runs counter to our everyday experience with clocks, tools, and machinery, which we normally expect to work, and are much more likely to construe the event of their breaking as a deviation.

There is a series of other significant limitations to Janda’s model, which I will only briefly identify here. First of all, the relationship between Russian prefixes and prepositions is outside of its scope potentially missing fundamental spatial generalizations underlying the central configuration of the prefix. Furthermore, prefixed perfectives and prefixed secondary imperfectives are treated as equally representative of the semantics of prefixes presuming that the semantic effects of aspectual distinctions between the two classes can be disregarded. Even though Janda does devote some of her discussion to the notion of aspect, for the most part she views it as peripheral to the organization of za-’s polysemy. As I show in my work, understanding what aspect contributes to the construal of an event has paramount effects on our comprehension of prefix semantics; as devoted markers of perfectivity, prefixes can incorporate a significant amount of aspectual phenomena in their meaning.

\footnote{14}An extension of the more literal meaning ‘start walking’.

43
Perhaps the most critical theoretical limitation of the model is that Janda puts geometric properties and internal configurations of the TR and the LM at the center of the organizational principles of her polysemy network. Recall that she identifies the switch from two to three-dimensional arrangement as the motivation for the link between za-’s configurations C1 and C2. Certainly, these prove to be rather reliable characteristics that help Janda describe the nature of links between configurations and find constraints in how to build the network. However, the difference between the two-dimensional and the three-dimensional domains is straightforwardly accommodated by context and speaker’s perspective, while a two dimensional arrangement profiled by a preposition—unless there is an explicit motivation—is by no means by default more basic than a three-dimensional one (see, for instance, Vandeloise (1991, pp. 5-9) for a detailed critique of preposition accounts claiming precedence of two-dimensional meanings over three-dimensional meanings). Similarly, the mass vs. count distinction motivating the separation of Configuration 3 (with the meaning COVER) and Configuration 5 (with the meaning SPLATTER) is elementarily recoverable from the properties of the participants in the scene as construed by the speaker.

In contrast, the nature of relationship between the five meanings within Configuration 1 (DEFLECTION, FIX, CHANGE OF STATE, EXCESS, INCHOATIVE and EXCHANGE) is considerably less straightforward—if not far more complex—than the links between the five configurations in za-’s network and appears to evoke significant conceptual transformations. For instance, the dissimilarity of construal between events expressing EXCESS, FIX, and INCHOATIVE is much more impeding than between C3’s COVER and C5’s SPLATTER. In her work, Janda devotes much of discussion to exemplifying how the five meanings within C1 arise from the proposed underlying configuration but the principles for these extensions remain on the periphery of the overall composition of the network. Dimensionality and identity, as
identified by Janda, are indeed two important notions that motivate the difference between the proposed configurations in the polysemy of za- and other prefixes, but they alone capture very little of the actual diversity in the semantics of these prefixes. Concluding her work, Janda herself concedes that it is unclear whether the criteria for identifying meanings within a configuration can be specified “non-arbitrarily” and “more clearly” Janda, 1986, p. 243. And it is these issues, indeed, that represent the truly fundamental questions in our understanding of the principles underlying prefixal semantics.

Overall, Janda’s work makes the first step in a cognitively based pursuit of the prefixal polysemy in Russian, and as any first endeavor in a new direction it only starts to take full advantage of a new theory, leaving many important questions for subsequent research. The emphasis on the geometric configurational motivations for the network leaves principles behind abstract extensions within these configurations unaccounted for. It is the goal of my work to show precisely how we can motivate the relationship between meanings within the polysemy of za-. Furthermore, I show that these motivations can, indeed, be guided by criteria that are clear and non-arbitrary once we earnestly acknowledge the cognitive principles guiding the construction of meaning in humans.

2.3 CONCLUSION: AN INTEGRATED APPROACH TO za-

Prior to my overview of previous approaches to the semantics of za- I have asserted that my approach differs in a strong adherence to the cognitive linguistics methodology and its more restricted scope. With the context of the discussion of previous approaches in mind, in this section I elaborate precisely how these two differences set my analysis apart from previous analyses and what they mean for my own account.
From the point of view of event structure, the BEGIN and END meanings consistently expressed by za- constitute an antonymous pair and prove to be a challenge for a systematic account of za-’s meaning. Why does language employ a single string to denote such contradicting notions as the beginning and the end of an event? As it appears, there are at least two major perspectives that can be adopted to explain the BEGIN/END dichotomy of za-. On the one hand, it is possible to hypothesize that the two meanings are not related and there are two homophonous prefixes each representing one of the meanings in the opposition. Alternatively, one could argue that we are dealing with two related meanings of the same prefix. Under the former approach we avoid reconciling the BEGIN/END semantic opposition but are obligated to justify the conjuring up of two phonologically identical prefixes while failing to explain why one and the same phonological string is employed in Russian verbs to express these meanings. Under the latter approach we do not need to postulate the existence of two homophonous prefixes but face the difficulty of showing exactly how the notions of beginning and end are related within event structure and the semantics of a single perfectivizing prefix.

In the overview of previous accounts of prefixal semantics in Russian I have shown that all methodological differences aside, the traditional, invariant, and formal accounts at heart remain—inadvertently or purposefully—descriptive, as to one degree or another they all admit to treating za-’s meaning variation as a reflection of homonymy. While the homonymy approach provides a rather concise account of the semantics of za-, it fails to be more than just a formalized description of za-’s semantic diversity. As I will show, it also neglects broader semantic patterns of the prefix za- and its interaction with verbs stem and semantics and aspectual phenomena. Most importantly, the homonymy approach does not recognize, let alone employ, in its research procedure the fact that language structure consistently reflects effects.
of mental perspective building and fundamental interconnectedness between spatial and temporal cognition. In his exploration of French prepositions, Vandeloise, 1991 argues that simple descriptors based on pure geometrical and logical relations are insufficient for the description of prepositional semantics; the functional element arising from human experience is indispensable in accounting for the semantics of spatial particles. Only by committing to the position that the domains of space and time have a homologous status in human cognition and recognizing the significance of human experience for meaning construction can one build a model of semantics that both has a strong explanatory power and goes beyond purely classificatory goals and ungrounded abstract theorizing.

In my dissertation I take the polysemy approach as I adhere to the notion of motivatedness in language structure. The design of language is motivated in the sense that meaning construction guides the construction of form and, therefore, patterns in form are reflections of patterns in meaning. As noted by Krongauz (1993, p. 15), accepting the view that meaning motivates language structure leads a linguist to “purposely look for semantic differences in places where previously it never occurred to anyone to look”. And, indeed, the idea of motivated language design has spurred a major body of work addressing phenomena from unorthodox perspectives in linguistics. For instance, Wierzbicka claims that meaning is the efflux of all linguistic phenomena, including the patterns in syntactic and morphological structure (Wierzbicka, 1988), while Hopper views grammar as an emergent function of discourse entrenchment (Hopper and Tomasello, 1998), and Goldberg shows that the formal structures in

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15a “... Все грамматические явления в языке (и морфологические, и синтаксические) обусловлены или мотивированы семантикой... Лингвист, хотя бы частично принимающий её [эту идею], постоянно нацелен на поиск семантических различий там, где ранее искать никому не приходило в голову.”
syntax far exceed in their meaningfulness their traditional view as a set of content-empty algorithmic instructions (Goldberg, 1995, 2006).

A rather recent development in the set of linguistic theories, cognitive linguistics, as it promotes the notion of motivatedness, makes a number of seminal commitments to how it understands language structure. These commitments are in many ways radically different from the traditional views on language organization in that meaning takes the central stage in motivating patterns of linguistic structure. The understanding of meaning itself is based on what cognitive psychology has discovered about the governing principles of the human mind. Some main claims of cognitive linguistics can be summarized in three categories.

1. Within the general human cognition, perceptive and processing mechanisms are defined by our neuro-physiological architecture and our environment, or are “embodied” (Gibbs, 2005; Lakoff and Johnson, 1999; Mandler, 1992); while categorization displays prototype and family resemblance effects (Rosch, 1975; Wittgenstein, 1953).

2. Language is an integral part of human cognition; conceptualization and semantics are intertwined (Fauconnier, 1994; Langacker, 1987; Talmy, 2000; Vandeloise, 1991).

3. Therefore, meaning in language is mandated by non-discrete categories and embodiment in the spatio-physio-social world (Coventry and Garrod, 2003; Gibbs, 2005; Lakoff, 1987; Tyler, 2012).

One of the entailments of these key ideas is the importance of perspective in how entities and events are construed. Our perceptive ability to place and shift focus from one entity to another, from one perspective to another is reflected in how we use language. In fact, language becomes a tool that enables us to manipulate the focus of our interlocutor’s attention to establish a mental contact (Langacker, 2002). This idea will prove crucial for my analysis of semantics of za- as it interacts with aspect and motion verbs.
The account of za- I present in this work is grounded in cognitive linguistics. I argue in favor of polysemy as the appropriate mechanism of examining semantics of za-; I also view the spatial configuration of za- as the defining element of its semantic variation, which motivates its meaning extensions but by no means ubiquitously encompasses them as the invariant. The specific application of the cognitive linguistics to the exploration of the semantics of za- is grounded in two major areas within this approach. First, I heavily rely on methodological apparatus developed by Heine (1997); Langacker (1987); Levinson (2003); Talmy (2000); Vandeloise (1991) in relation to the description of linguistic and conceptual structure, such as the interrelation of the spatial and temporal domains as perceived and processed by human cognition, the importance of perspective and embodied experience in structuring of experiences and meaning as reflected in language, and the symbolic nature of language design. These notions serve to direct the course and delineate the boundaries of the method, which profoundly defines how I approach phenomena representing the semantics of aspect, motion verbs, and prefixation in Russian as applicable to za-perfective motion verbs. Second, in my examination of the semantics of the prefix za- I utilize the methodological procedure established by the Principled Polysemy Network. Developed by Tyler and Vyvyan Evans (2003), this model specifically addresses semantics of spatial particles with an emphasis on the privileged status of spatial meaning and motivated relations of meanings within the polysemy. In particular, the semantics of prepositions and prefixes are understood to be motivated by a basic spatial protoscene; the affordances motivating the extensions of the central sense arise from human experiences and interactions with this basic spatial scene in the context of socio-physical environment as well as gravity, inertia, force dynamics and shifts in perspective. This is a crucial novelty of my analysis in comparison to Janda’s. Recall that one of the outcomes of Janda’s analysis was her dissatisfaction with the lack of
“any non-arbitrary way of determining what constitutes a submeaning” (Janda, 1986, p. 243). By adapting the notions of Cognitive Grammar and following the Principled Polysemy Model I overcome the problem of defining the criteria necessary for a constrained analysis of prefix semantics.

In the preceding paragraphs I have established general and more specific methodological assumptions of my work calling for a polysemic approach to the semantics of za- and a coherent commitment to cognitive linguistics theoretical paradigm. In the remaining part of this section I will focus on justifying the scope of my work: why za- and only with motion verbs? To return to the series of examples demonstrating the problem in (21) through (24), I have determined that the phenomenon of meaning variation across the four sentences is brought about by prefix za-, the variation of aspect as instantiated by the perfective and the imperfective varieties, and the meaning of motion verb arising from the notion of determinacy.

(21) Соня зашла.
    Sonya-NOM.SG za-ˇ s-l-a.
    ‘Sonya walked in.’

(22) Саша заходил.
    Sasha-NOM.SG za-xodi-l-∅.
    ‘Sasha started to walk.’

(23) Соня шла.
    Sonya-NOM.SG walk0.IMPERF-PAST-FEM.SG.
    ‘Sonya was walking.’

(24) Саша ходил.
    Sasha-NOM.SG walk1.IMPERF-PAST-MASC.SG.
    ‘Sasha walked.’
What this preliminary analysis suggests is that the challenge in accounting for the meaning patterns as exemplified across (21)–(24) is that it would have to involve a number of variables, including, but not limited to, the contribution of the grammatical aspect; the nature of the conceptualization distinguishing between events as beginning vs. ending; the nature of the difference between the two verb stems denoting ambulation, as representing the class-broad binary opposition based on determinacy; and, finally, the contribution of za- to it all. Clearly, as a complex interaction, the outcome of the analysis depends on every contributing variable whose particular interpretation can affect the understanding of the other variables. Furthermore, even though we can identify the specific variables contributing to this phenomenon, the nature of their combined effect is not fully compositional in that the interaction of these variables is just as much a function of human communication taking place in a broad variety of contexts with a variety of communicative goals, and in that semantics of za- in the context of perfective motion verbs—or any linguistic phenomenon for that matter—is qualitatively more than just a sum of phenomenon constituents (Langacker, 1987; Sweetser, 1999). This view of the semantics of za- may be at odds with the isolationist character of the traditional linguistic scholarship, where an examination of a phenomenon in itself, discretely, independently of context, is compounded with the implicit assumption of semantics compositionality and is a prerequisite of investigative adequacy.

However, there is an important reason to earnestly consider the notions of non-strict compositionality and context dependence as salient organizational principles of language structure, eclipsing the traditional view. Specifically, in many fundamental ways these notions resonate with the sophisticated and empirically grounded understanding of a wide range of phenomena as complex systems that has been gaining traction in advanced science with many key principles in evolution (Bejan and Lorente,
2010; Kauffman, 1993), artificial intelligence (Ashby, 2004), cognitive science (Maturana, Varela, and Behncke C. 1993), and sociology (Gilbert and Troitzsch, 2005) among others explored in this paradigm. What all of these works have in common is the recognition of the fact that many phenomena cannot be realistically represented as discrete and strictly compositional; rather the vast majority of phenomena in the most various instantiations are more adequately described as complex systems. Complex systems are characterized by what in the field of linguistics has been referred to as non-strict compositionality, where constituents of a system when interacting with each other inside the organization produce emergent qualities, the qualities that are otherwise inaccessible through simple addition of constituent features.

Given the complexity of the contributions from the areas of aspect, determinacy, understanding of event flow, motion events, the semantics of za- cannot be regarded fully compositional; therefore, I propose that in order to gain a more profound understanding of the semantics of za-, we must acknowledge its complexity by treating it as a complex system. Such integrated approach pays due respect to all contributing factors setting the stage for the phenomenon at hand with the implicit understanding that its components will interact with each other in non-trivial ways.

Having acknowledged the complexity of this phenomenon, we need to address the relevance of context contribution and dependence to the analysis. More specifically, how much should be included into the analysis; in other words, where does one draw the line that separates elements that are relevant to this semantics of za-perfectives of motion verbs from the irrelevant ones? Naturally, we cannot feasibly encompass an infinite array of linguistic elements. Nor can we rely on the traditional categorization principles informed by the necessary and sufficient conditions; after all, recognition of fuzzy boundaries is one of the flagship stances of the cognitive linguistics enterprise. What we can do is identify notions that are central to the phenomenon at hand or
instrumental for its existence. One possible way to do so is to determine what makes a complex system largely self-sustained. In other words, if every component is efficiently caused by another component within the system and these series of causal relationships allows us to explain the behavior of the system, then the system is self-contained (Rosen, 2005). This approach has been advocated specifically for linguistic phenomena by Wildgen (2009). He proposes that phenomena be explored through “local explanatory strategy”, whereby addressing “islands” within an otherwise extremely complex phenomenon we can gain insights into the mechanisms that are at play at levels where elements comprise self-sustained systems, and in turn “these bridge-points can be used to explore further the large fields which have not yet been explored” (Wildgen, 2009, p. 4).

In relation to my analysis of the polysemy of za-, it means that we need to identify the components that provide an organizational medium for this system and make it possible—a structural island of sorts; or more specifically, we need to select the components that license za-’s BEGIN/END semantic opposition. From this perspective I argue that this semantic opposition, apart from the prefix itself, incorporates the semantics of motion verbs and aspect. This claim is rather easy to substantiate: we consistently observe the bipartite semantic opposition across 1) two classes of motion verbs as defined by determinacy; 2) when they are prefixed and thereby perfectivized; 3) by prefix za-. And, on the contrary, outside of this interaction the system identity is lost. First, motion verbs that do not participate in the determinacy based oppositions—e.g., šagat’ ‘walk, step’, dvigat’sja ‘move’—do not consistently demonstrate the BEGIN/END opposition: za-šagat’ means ‘begin to walk’ and has no counterpart that would denote ’end to walk’ when prefixed with za-. Second, imperfective aspect is never associated with the duality of expressing BEGIN and END consistently; it is only in the context of the perfective aspect that these two meanings
arise. Finally, za-, as I have repeatedly demonstrated in this chapter, has a very broad range of meanings, but it is only in the context of perfective verbs of motion that it consistently expresses the begin and end meanings. Therefore, I claim that what defines the begin/end opposition of za- relies on za- itself, motion verbs, and aspect. In that sense, what I have initially embarked on as an examination of za-’s polysemy has organically evolved into an exploration of the semantics of za-perfective verbs of motion; that is, the emergent qualities characterizing the interaction between the semantics of za-, motion verbs, and aspect that are central, or instrumental elements in this phenomenon.

The advantages of defining the scope of my analysis in this manner are two-fold. First, as we have seen across the previous body of work on Russian prefixation, what gets picked for the analysis and what remains outside is for the most part arbitrary: Schooneveld and Janda include into their account some prefixes but not

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Figure 5: A Venn diagram representation of the contribution of aspect, motion verbs, and za- to the semantics of za-perfective motion verbs. The shaded area represents the semantics of za-perfective motion verbs.
others, while the majority of the previous work ubiquitously leaves out a serious examination of verb and aspect semantics. By adhering to the selectional criteria which define complex systems, I develop a rational and accountable vindication for selecting a specific phenomenon in the semantics of za-. Second, it is my impression that those authors who did attempt to account for verb stem semantics in their accounts of prefixes were overwhelmed by the sheer amount of verbs they had to consider due to many verbs having multiple prefixation paradigms and extensive polysemy. With just 8 pairs of stems, motion verbs present a rare opportunity for a careful, patient treatment of the complex patterns they demonstrate. As it stands, a cognizant selection of the scope of research informed by a broad understanding of the nature of complex systems is beneficial for defining the focus of my examination of the semantics of za-.

These general considerations lend an overall road-map for my analysis. As I tackle za-perfectives of motion verbs I identify three major areas that lay the groundwork for my analysis: aspect, determinacy (the notion underlying the distinction between two classes of motion verbs) and the semantics of za-. The heart of my analysis then is the intersection of these three areas, as schematically represented in Figure 5.

Internally, the broader notions of aspect and determinacy can be broken down into systems of more specific mechanisms that account for the conceptual constructs associated with these categories. Particularly, my discussion of aspect is based upon the interplay of such notions as boundedness, extension degree of speaker’s perspective (or more succinctly, viewpoint extension), and perceptual scanning. This set of notions offers a conceptual inventory for the exploration of aspectual semantics as motivated by entrenched patterns of event construal. The notion of determinacy is grounded in the interaction between the notions of telicity, plexity, and extension degree of speaker’s perspective. These, too, provide conceptual underpinnings involved
in the lexicalized construal of motion events as represented in the Russian determinate and indeterminate motion verbs. This first overview of the way I explore aspect and determinacy already gives a clear sense of the significance I ascribe to the notion of the extension degree of speaker’s perspective as it is employed in my analysis of both aspect and determinacy. Furthermore, I claim that the difference in perspective is also fundamental to meaning patterns associated with the prefix za- as either the intrinsic or relative reference system is assumed. Ultimately, it is the ability of humans to shift their mental perspective of a motion event that informs the BEGIN/END opposition we find in za-perfective motion verbs.

My analysis of za- is structured around addressing three of the identified areas one by one in the context of Talmy and Langacker’s work on the nature of spatial construal and how it is reflected in the domain of time through language (Langacker, 1987; Talmy, 2000). Once all three areas have been addressed I provide an analysis for the BEGIN/END semantic opposition by combining my understanding of the contributions of aspect, determinacy, and the prefix za-.

Before I proceed with the discussion I take a note of some of the assumption and conventions I adapt throughout the work. Russian examples are presented both in the original Cyrillic alphabet and a romanized transliteration. I adapt the “academic”—or “scientific”—transliteration standard (Pedersen, 2006; Reformatskij, 1960) as the more commonly used in Slavistics (see Appendix A on p. 283). English translations in glosses attempt to capture both the structural and conceptual essence of the Russian examples. Where applicable, the first translation gives a very close, practically word-for-word translation reflecting the structure of the Russian original. The translation in parenthesis reflects what I consider to be a close conceptual match for the Russian original which in many cases is substantially different than the more structurally accurate translation. I provide English translation for direct quotes from non-English
sources (unless otherwise stated) and provide the original citation and context in a footnote.

Since English does not lexically distinguish between the determinate and indeterminate motion construals, I gloss the Russian motion verbs with the closest English counterpart followed either by \( D \) to signal a determinate stems or \( I \) to signal an indeterminate stem (e.g., \( \text{walk}_I \) stands for the Russian indeterminate motion verb which denotes walking).

The notion of aspect by default corresponds to the traditional notion of grammatical aspect unless otherwise specified. In general, I attempt to avoid labeling the phenomena I address with traditional terms as many of them have come to denote inconsistent interpretations depending on the author, field, and general context. In particular, while the meaning of \( \text{START} \) in the context of motion events has been identified as a representation of the ingressive Aktionsart (Comrie, 1976; Stoll, 2001), I avoid using it when describing the semantics of indeterminate \( \text{za} \)-perfectives of motion verbs as I want to specifically invoke the construal of starting a motion event in determinate motion verbs rather than the whole range of other phenomena that may have to do with the notion of ingressiveness in a more broad sense\(^{16}\). I do employ such notions as determinacy, plexity, telicity, grammatical aspect, lexical aspect, as they seem to generally denote the same connotation for the phenomena that I address in this work; also, where clarification is necessary, I provide an elaboration of what I mean by these terms in the context of this work (e.g., lexical aspect).

\(^{16}\)Cf. Dickey (2007) for a discussion of the connection between ingressiveness and the delimitative meaning in the development of the semantics of \( \text{po} \)- in Russian; also see Valeeva (2001, p. 321) and references therein for describing \( \text{za} \)- as inchoative, and \( \text{po} \)- as ingressive.
Chapter 3

Motivations for spatially-grounded semantics

In following chapters I lay out the groundwork for a cognitive analysis of the semantics of *za*-perfective verbs of motion. As I address aspect, determinacy, and *za*-, I rely on a number of assumptions about the nature of the semantics of *za*-. First, the contribution of *za*- is significant as it distinguishes it from the semantic contribution of other prefixes and accompanying prepositional phrases. Second, its semantics is firmly grounded in the spatial domain, which does not only suggest a close relationship with the cognate preposition *za* but also licenses utilization of prepositional semantics for the examination of the semantic of the prefix. In this chapter I provide my argumentation in favor of these two assumptions.

3.1 Paradigmatic and syntagmatic significance of *za*- as a perfectivizing prefix

In this section I will briefly address the motivation for the scope of my work as pertaining to the prefix *za*-. Particularly, it is worth exploring why the discussion of the semantics of *za*-perfective motion verbs necessitates the discussion of the semantics of the prefix *za*-. In other words, can we account for the meaning patterns in examples (25) through (28) solely by the difference in the semantics of the determinate vs. indeterminate stems and broader sentence context such as prepositional phrases?
Zaliznyak proposes a similar set of questions as she attempts to elucidate the semantic “clarity”\(^{17}\) or isolability\(^{18}\) of za- (Anna Andreevna Zaliznyak, 1995, pp. 144–145, 148).

(25) Соня шла в сад.
Sonia-NOM walk\(_{0}\).IMPERF-PAST-FEM.SG in garden-ACC.SG.
‘Sonia was walking to the garden.’

(26) Соня зашла в сад.
Sonia-NOM za-walk\(_{0}\).PERF-PAST-FEM.SG in garden-ACC.SG.
‘Sonia walked into the garden.’

(27) Саша ходил.
Sasha-NOM.SG walk\(_{1}\).IMPERF-PAST-MASC.SG.
‘Sasha walked.’

(28) Саша заходил.
Sasha-NOM.SG za-walk\(_{1}\).PERF-PAST-MASC.SG.
‘Sasha started to walk.’

The issue is in fact two-fold and can be addressed from the point of view of paradigmatic and syntagmatic distribution:

1. Paradigmatically, how much does za- contribute to the \textit{begin/end} distribution in perfective determinate and indeterminate motion verbs (e.g., (26) vs. (28))? Can we delegate this semantic dichotomy to the difference in the meaning of unaffixed stems, and assume that za- simply introduces the perfective construal without substantially modifying the meaning of the stems?

\(^{17}\)“Ясность.”

\(^{18}\)“Семантическая вычленимость.”
2. Syntagmatically, how much do prepositional phrases contribute to the meaning of reaching the destination in perfective za-determinates? Is the notion of destination invoked by the prepositional phrase rather than the prefix (e.g., (26))? 

Below I address each issue separately and show that the semantics of za- are indeed essential for the meaning patterns in za-perfective motion verbs.

3.1.1 Paradigmatic patterning

A good way to account for the semantic contribution of za- in perfective motion verbs is to compare the semantic effects of za-prefixation to that of other prefixes. Tyler and Vyvyan Evans (2003) employ a similar method in establishing the protoscene of spatial particles. In particular, they identify a contrast set of particles whose semantics are in complimentary distribution (e.g., up vs. down); they hypothesize that by comparing members of the contrast set it is possible to discern key facets of the meanings associated with spatial particles. The meanings of perfectivizing prefixes are too complex to immediately provide a clear case for any single contrast set in relation to the semantics of za-, but I provide evidence from two prefixes that illustrate the point. In fact, most of the perfectivizing prefixes are compatible with the determinate and indeterminate stems. The derived perfective forms show the same rigorous pattern of meaning dichotomy as do za-perfectives in that perfective determinate class has a meaning that is in common to all perfectivized determinate stems with the particular prefix. This meaning is substantially different from the meaning that indeterminate verbs demonstrate as a class when prefixed with the very same prefix. For instance, when determinate stems are prefixed with na- they consistently
denote either running over a patient by the particular mode of motion, or an influx
of multiple agents at a common point:

(29) Он на меня набежал.
On na menja na-beža-l-∅.
He-NOM.SG on me-ACC.NOM na.PERF-run¨-PAST-MASC.SG.
‘He ran over me (by physically running)’.

(30) Он на меня наехал.
On na menja na-eza-l-∅.
He-NOM.SG on me-ACC.NOM na.PERF-drive¨-PAST-MASC.SG.
‘He ran over me (by driving a vehicle).’

(31) Они все сюда набежали.
On-i vse sjuda na-beža-l-i.
They-NOM.SG all here na.PERF-run¨-PAST-PL.
‘They all ran here.’ (All of them gathered in this spot by running over here.)

(32) Они все сюда наплыли.
On-i vse sjuda na-ply-l-i.
They-NOM.SG all here na.PERF-swim¨-PAST-PL.
‘They all swam here.’ (All of them gathered in this spot by swimming over here.)

Na-indeterminates on the other hand denote an accumulation of distance covered
by a particular mode of motion or a particular commodity associated with the trip:

(33) Он набегал три километра.
On na-bega-l-∅ tri kilometr-a.
He-NOM.SG na.PERF-run¨-PAST.SG.MASC three
‘He ran 3 kilometers’. (He ran a total of 3 kilometers.)

(34) Он наездил двадцать литров
On na-ezdil dvadtsat’ litr-ov
He-NOM.SG na.PERF-drive¨-PAST.SG.MASC twenty liter-GEN.PL
бензина.
benzin-a.
gasoline-GEN.SG.
‘He drove 20 liters of gasoline.’ (He spent a total of 20 liters of gasoline by driving.)

These examples show that na- does not elicit the same meaning pattern when perfectivizing determinate and indeterminate motion verbs as we have seen with the prefix za-. Specifically, it is not the case that perfective indeterminate motion verbs always profile a beginning of an event regardless of the prefix, since in the context of na- they denote an abstract idea of accumulation which is not—at least immediately—related to the idea of starting a motion event. Similarly, perfective determinate verbs prefixed with na- denote the idea of accumulation which is quite different than reaching the destination associated with perfective za-determinates.

More evidence comes from prefix po-, which may constitute a good candidate for a contrast set with prefix za-. Particularly, po-determinates denote the beginning of a motion whereas po-indeterminates denote a limited event, which usually does involve the change of state as a result of the event (Flier, 1986; Valeeva, 2001).

(35) Он побежал.

On po-bezha-1-∅

He-NOM.SG po.PERF-run-PAST-MASC.SG.

‘He took off running. He started to run.’

(36) Он побегал.

On po-bega-1-∅

He-NOM.SG po.PERF-run-PAST-MASC.SG.

‘He ran for a while.’

Note that prefix po- is responsible for eliciting almost a reverse pattern from what we have observed with za-: the meaning of starting a motion event is found in za-indeterminates, but it is also found in po-determinates, that is, the START meaning is not exclusive to indeterminate motion verbs. On the other hand, terminating the motion is found with za-determinates and po-indeterminates (with the latter having
a delimitative facet to their meaning), that is, the end semantics are not exclusive to determinate motion verbs. Therefore, it would be unreasonable to assume that the start meaning, for instance, is in some way already present in indeterminate stems and is revealed when the stem is prefixed with za-. Evidence from po- suggests that these phasal components of a motion event (i.e., the beginning and the end of a motion event) are a part of general conceptualization of motion events and prefixes za- and po- attenuate substantially different elements of the scene in determinate and indeterminate verbs such that, for instance, the start meaning is associated with both classes as long as the “right” prefixed is used.

I take the robust dichotomy of meanings across the determinate and indeterminate motion verb classes—where the particular meanings are shared by the class *en masse*—as a major piece of evidence in favor of considering the meaning of za-, or any prefix combining with motion verbs for that matter, as essential for determining exactly what verbs in these two classes denote when prefixed and perfectivized. One facet of the meaning does remain constant across all prefixes and that is the fact that they all serve as perfective markers for verbs of motion; however, they also introduce prefix-specific meanings which interact with the determinate and indeterminate motion construals in different ways (I explore this idea in more detail in Section 4.1).

### 3.1.2 Syntagmatic patterning

Another question about the semantic contribution of za- concerns how much of END meaning comes from the semantic contribution of za- as opposed to sentential context, such as prepositional phrases denoting destination. In particular, determinate za-perfectives profile a strong sense of reaching the destination at the moment when the motion is terminated. For instance, in (37) Sonia is understood to have stopped moving once she had reached the garden.
The challenge here is to demonstrate that the significance of the notion of destination here is attributable to the construal evoked by the za-perfective rather than the prepositional phrase alone. This issue is only relevant to my treatment of determinate za-perfectives, since indeterminate za-perfectives under my analysis lack the same sense of spatial destination. Therefore, in this section I will only address za-perfective determinates.

Prepositional phrases undoubtedly play an important role in expressing the way a motion event is construed. However, in the case of motion verbs their contribution is best described as further specification and detalization of an already established scene which is encoded in the verb, the mover, and the relationship between the two as expressed in the prefix (cf. similar claims in Ferm (1990); Shull (2003); Valeeva (2001)). For instance, za- at the most abstract level denotes reaching the destination for determinate stems. However, it lacks explicit specification of the spatial profile of the destination (i.e., what it means to reach the destination spatially, or where it is situated) and what particular trajectory the TR took to reach the destination:

(37) Соня зашла в сад.  
Sonia-NOM za-PERF-walk PERF-MOD-PAST-FEM.SG in garden-ACC.SG.  
‘Sonia walked into the/a garden.’

(38) Саша забежал в дом.  
Sasha-NOM.SG za-PERF-run PERF-MOD-PAST.SG.MASC in house-ACC.SG.  
‘Sasha ran into the house.’

(39) Саша забежал на гору.  
Sasha-NOM.SG za-PERF-run PERF-MOD-PAST.SG.MASC on mountain-ACC.SG.  
‘Sasha ran onto (the top of) the mountain.’
In examples (38) through (41) the preposition specifies the spatial circumstances of how exactly reaching the destination by running was achieved. The destination can be inside the house (38), on the top of the mountain (39), under the roof (40), or behind the house (41). For that reason, reaching the destination can entail entering a large container (‘into the house’), or ascending to the highest point of a geographical entity (‘onto the mountain’), or bringing oneself under a surface (‘under the roof’), or reaching the back side of an entity (‘behind the tree’). In other words, prepositional phrases provide a focal adjustment to capture a specific scene in which the destination is spatially elaborated. Furthermore, the fact that (41) is possible at all suggests that although the prefix and the preposition are etymologically and semantically related, the two have different scopes when it comes to describing a spatial scene in a sentence. The prefix takes on the temporal interpretation of completing a motion event by reaching the destination—as it also does in all other examples (38) through (40)—while the preposition identifies the location of the actual destination as being at the back of the tree. The two construals work together in (41) to identify the end of this motion event as reaching the destination that is located behind the tree.

Finally, prefixed motion verbs demonstrate restrictions as to what kind of prepositional phrases can specify the location of the destination. The restrictions draw from the abstract image schema that we find in a prefixed verb. That is, if the image
schema requires that the mover undertakes a motion to reach a destination, which is the case with za-determinates, only directional prepositions may apply. Furthermore, the case marking of the noun in the prepositional phrase also has to denote a destination rather than a location setting. Even though the two may appear to be conceptually close Russian consistently uses case marking to distinguish between these construals.

Janda’s comprehensive analysis of the semantics of Russian cases associates the destination with the Accusative case and the location setting with the Instrumental case (Janda, 2002; Janda and Clancy, 2002). Because of this distribution of case semantics we can expect prepositional phrases denoting destination of a motion to only recruit nouns in Accusative case. The example in (42) demonstrates how failure to comply with these restrictions yields an unacceptable sentence.

(42) *Саша забежал над горой. 'Sasha ran above the mountain (to reach the top of the mountain).'

Specifically, nad denotes a location setting which can be roughly equated to ‘above’; the noun goroj also identifies a location setting—rather than a destination of a motion—as it is marked with Instrumental case. The English gloss does not fully reflect the unacceptability of the sentence as the English ‘ran’ lacks the same sense of reaching the destination as does the Russian zabežal which I highlight in the gloss by explicitly specifying the goal ‘to reach the top of the mountain’.

Another restriction limits the range of possible prepositional phrases to those which identify a potential destination or goal. Therefore, prepositional phrases denoting source or trajectory are not compatible:
(43) *Саша забежал из горы.
Saš-a za-beža-l-∅ iz gor-y.
Sasha-NOM.SG za.PERF-run-PAST.SG.MASC from mountain-GEN.SG.

‘Sasha ran from the mountain (to reach the mountain).’

In (43) iz gory denotes a source of motion, i.e. ‘from the mountain’; incompatible with the destination-oriented semantics of the verb the sentence is rendered unacceptable. Another interpretation of the example in (43) is possible, where iz gory simply assumes the source of the motion event and the destination is left unspecified, which can be glossed as ‘Sasha ran (there) from the mountain’. Although this interpretation makes the sentence acceptable, the prepositional phrase no longer specifies a destination. We find a similar pattern in (44):

(44) *Саша забежал через гору.
Saš-a za-beža-l-∅ čerez gor-u.
Sasha-NOM.SG za.PERF-run-PAST.SG.MASC through mountain-ACC.SG.

‘Sasha ran through the mountain (to reach the mountain).’

The prepositional phrase here cannot denote a destination of the motion event as it distinctly expresses a trajectory of the motion.

This evidence suggests that even though prepositional phrases encode important information about the construal of a motion event, the semantics of za-perfective determinates already profile the bulk of spatial conceptualization which incorporates the notion of destination. The particular value of the destination is filled with the specification provided by the prepositional phrase. Crucially, the construal of the destination in za-perfective determinates is sufficiently explicit to set up restrictions on the kinds of prepositional phrases allowed in the sentence; only prepositional phrases denoting a destination can fill out the specifics of the abstract notion of destination.
established by the za-perfective determinate. I will return to the nature of the dynamics in the relationship between prefixes and prepositions in the context of an utterance in Section 7 and experimentally confirm my analysis in Chapter 7.3.

3.1.3 Conclusion

The semantics of za-perfective motion verbs involve a wide range of phenomena including the notions of grammatical aspect, determinacy of motion verbs, sentence context, and the semantics of za-. In this section I have shown that the last component is indeed an important contributor to the construal of perfective motion verbs. Prefix za- is responsible for eliciting a rigorous pattern of meanings across the determinate vs. indeterminate motion verbs that is substantially different from meaning patterns associated with other prefixes. This pattern cannot be predicted solely from the semantics of imperfective stems and the semantics of za- need to be taken into account. Furthermore, although determinate za-perfectives co-occur with prepositional phrases specifying the destination of the motion profiled by the verbs, the notion of destination is already largely present in the prefixed verb, which suggests that it is the prefix za- that introduces destination in the perfective construal of a motion event.

3.2 Za- and Za: Informing Prefixal Semantics through Prepositional Semantics

In this section I discuss the evidence for and the importance of recognizing the spatial origins in the semantics of za-. The consequences for this understanding of za-’s meaning clarifies the status of its aspectual contribution, while suggesting that the semantics of the cognate preposition za prove to be particularly helpful in determining
the originating spatial configuration of za- as a motivating engine of its extensions into the domain of aspect.

A strong formal interrelation between the classes of prefixes and prepositions with proposals of treating them in a unified manner has been widely explored (Asbury, Gehrke, and Hegedűs, 2006; Dikken, 1995; Emonds, 1976; Jackendoff, Anderson, and Kiparsky, 1973; Matushansky, 2002; Riemsdijk, 1990; Tolskaya, 2007; Zeller, 2001), even though there are proposed phonological and morphological features, where the parallelism between the two classes should be restricted (Gribanova, 2008, 2009). The roots of my analysis stem specifically from the focus on the semantic unity of the two particle classes. As I take on spatial motivations for the construal underlying a perfectivizing prefix, I acknowledge that the domains of time and space are processed as homologous in humans, which largely follows Talmy’s stance on the interaction between language and cognition (Talmy, 2000). In the context specific to the prefix za- this is further supported by the fact that a number of researchers have claimed a diachronic connection between the preposition za and the prefix za- as an instantiation of the general pattern, where “perfectivizing prefixes...developed from prepositions and/or adverbs with locative or directional meanings that are synchronically still detectable” (Filip 1999, p. 194; Comrie 1976; Ivanov 1990; Šaxmatov 1963; Tabakowska 2003; Townsend and Janda 1996). Ivanov (1990, p. 345) specifically links the semantic parallelism of prefixes and prepositions to the fact that “the categories of space and time are linked in human consciousness, as primary forms in which the matter exists.”

While the exact etymological relation between the two is currently difficult to establish due to lack of written history from the earlier stages in the development

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19"Подобное развитие обусловлено тем, что в человеческом сознании связаны категории времени и пространства как основных форм существования материи."
of Slavic, the acknowledgment of form and content associations between the prefix and the preposition has two immediate repercussions about the way the semantics of the prefix should be approached. On the one hand, the spatial component of the prefixal meaning in and of itself represents its fundamental, defining characteristic (Shull 2003; Anna Andreevna Zaliznyak 1995; also see similar claims in Bacz 2005; Dąbrowska 1996; Tabakowska 2003 for Polish za-). Particularly, alongside its strong association with aspectual marking, za- has its semantic roots in a concrete spatial configuration, which is particularly transparent in basic spatial contexts, where the prefix “sets up a particular spatial configuration of a motion event, specifies the trajectory of the mover within . . . the scene, and traces the change in the position of the mover” throughout and as a result of the motion event (Valeeva, 2001, pp. 319–320). We also find its spatial origins motivating metaphorical and metonymic extensions to non-spatial domains, where, for example, the visual obstruction associated the basic spatial scene involving the BEHIND meaning of za- motivates the widely attested COVER extension (Anna Andreevna Zaliznyak, 1995, p. 156-157). And even more so, the aspectual meaning itself is to be seen as an extension of the spatial configuration onto the structure of events due to the fact that humans consistently employ a conceptualization of an event as a spatial entity with boundaries, or a CONTAINER. This conceptualization strategy arises as one of the earliest conceptual primitives in preverbal infants (Casasola and L. B. Cohen, 2002; Mandler, 1991, 1992) to form a persistent ontological metaphor underlying human reasoning about abstract entities such as ideas, states, and events (e.g., STATES ARE CONTAINERS, as in Lakoff and Johnson (1980, pp. 32–33) and Lakoff (1993, p. 220)). The function of prefixes in these contexts, as Filip argues, is to “lexicalize the transitions into and out of processes, states or events” (Filip 1999, p. 184; also cf. Gallant 1979; Isačenko 1965; Tolskaya 2007 for similar ideas). In this sense, the aspectual use of prefixes demonstrates a
strong affinity to their function as elements setting up the scene of a spatial event; this ability is a direct instantiation of the pervasive Changes are Movements conceptual metaphor where the movement is understood to occur “in and out of bounded regions” (Lakoff, 1993, p. 220). As modifiers of event structure, prefixes set up a scene for any eventuality, which functions as an abstract container and “involves changes or is potentially changeable” and “can in principle have a beginning, a certain extent, and an end.” Therefore, the function of the prefixes is to mark the “transitions that result in a certain state, process or event or in their ending and measure their duration. They can be acquired, entered into and end, and they can be measured in terms of time periods they are associated with” (Filip, 1999, p. 181). In effect, across their spatial origins and throughout the extension into the category of aspect, prefixes take full advantage of the homology that exists between the spatial and temporal cognition as they are equally capable of modifying and attenuating various aspects of the internal structure of spatial and temporal entities. This view of the aspectual contribution of verbal prefixes makes it apparent that their spatial and aspectual uses are tightly interrelated in important conceptual ways, while their spatial origins strongly motivate the patterns of extension into the domain of time.

On the other hand, as prepositions in general—including za—tend to retain more basic spatial uses in their semantic repertoire, the semantics of cognate prepositions prove to be particularly beneficial for the study of prefixal semantics across cognitive pairs as they offer a synchronically more straightforward access to the motivating spatial scene. In particular, even though semantic extensions of prepositions themselves can be quite abstract, the central senses of prepositions show a far less grammaticalized status and more independent, concrete semantics as compared to prefixes. These differences in content between the two classes of particles have not only been confirmed for a wide variety of languages, but also found to strongly correlate with the
differences in the formal status such that higher morphological and/or phonological dependence of language units is generally linked to lower semantic independence and more abstract meaning—a pattern motivated by the various degrees of grammaticalization of prefixes and prepositions (Bybee, 1985; Hopper and Traugott, 2003; Langacker, 1987; Rubba, 1994). As Russian prepositions, indeed, represent a class that is less morphologically bound than the class of Russian prefixes (Gribanova, 2008, 2009), we can employ prepositional semantics to gain a gateway into the basal spatial configuration, which represents the diachronically earliest semantic function of the preposition-prefix dyad and serves as the primal motivating force for the extensions in their semantics (Tyler and Vyvyan Evans, 2003; Tyler and Shakhova, 2008).

Another advantage of employing prepositional semantics for the study of the cognate perfectivizing prefix is that prepositions offer contexts of particle use that can be analyzed outside of the scope of aspectual meaning, which is otherwise problematic for prefixes. Indeed, the challenge of teasing apart the perfectivizing function from the purely semantic contribution of the prefix to the verbal stem is a highly debatable topic in Russian aspectology and there is little agreement on where—and whether to—draw the line between these two components in prefixal meaning (Bondarko, 1971; Comrie, 1976; Gallant, 1979; Janda, 2007; Janda and Lyashevskaya, 2011a,b; Krongauz, 1994; Maslov, 1984; Šeljakin, 1983; Vinogradov, 2001; Anna Andreevna Zaliznyak, 1995; Anna Andreevna Zaliznyak and Šmelev, 1997). For instance, Potexina (2007) shows that the perfective function of the prefix indicating the completion of an event is often difficult to divorce from the semantic contribution to the spatial scene in cases where the spatial meaning of the prefix expresses a location at the point of event completion. If we try to separate the aspectual and semantic contributions of a prefix to a verb stem, in za-jti, za.PERF-walk, for example, we may conclude that the contribution of za- is two-fold: it signals the perfective aspect of the verb,
but also spatially locates the agent at the end of motion event trajectory, which is a prototypical instance of the END meaning I have identified for za-perfective determinate verbs of motion. However, in this instance, the completion of a motion event and the location of the agent at the end of the motion trajectory are virtually identical, since the agent’s reaching the end of the motion trajectory completes the event. In other words, the destination and telicity fulfillment—or the spatial and the temporal closures of the event—virtually coincide here. Naturally, the two components in the meaning of za- substantially reinforce each other’s contribution making it even more so difficult to (justify the need to) reasonably separate them. As I follow the idea of non-strict compositionality in prefixal semantics, my main goal here is, indeed, not to separate the aspectual and semantic contribution of the prefix20 but rather to identify the motivation for the use of the particular prefix in the given context. In other words, why is za- recruited in contexts where destination in spatial arrangement and the goal of an event are identical; what allows it to traverse the distinction between the domains of space and time so easily? It is clear that the notion of spatio-temporal homology is at play here, and that the underlying conceptual configuration of za- ultimately originating in a concrete spatial use is somehow particularly well-suited to take advantage of the similarities in cognitive strategies employed by humans to reason about space and time. This is where the semantics of the cognate prepositionza devoid of grammaticalized association with aspectual marking provides the closest synchronically available point of access to the spatial configuration serving as the motivator of prefixal extensions of the semantics of za- in the domain of time and thereby the nature of its aspectual contribution.

There is further evidence for employing prepositional semantics to explore the semantics of the prefix za- that is instantiated by phenomena specific to Russian

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20I do hypothesize though how it would be accomplished in Section 4.1 on page 99.
as well as typologically generalizable. This range of phenomena reinforces the idea that the semantics of Russian prefixes and prepositions are closely related and the semantics of prefixes, while synchronically expressing abstract aspectual meaning, are spatial in their origin. First, internal to the Russian language, there is a clear pattern of strong prefix-preposition association. Specifically, if we consider broad class generalizations of spatial particles in Russian we immediately recognize that recruiting the identical phonological form to denote prepositional relations as well as perfective construal is far from endemic to the case of za. Specifically, Figure 6 demonstrates that out of 27 prefixes 16 have a corresponding cognate preposition.

What these correspondences show is that there does appear to be a class-general tendency for the two particle categories to be represented by the same phonological form in the majority of instances. Following the symbolic thesis, which assumes that parallelism in form reflects parallelism in meaning (Langacker, 1987), we can infer that there is something common in the conceptualization profiled by both prefixes and prepositions. Ultimately, this pattern is pointing to the fact that the homologous nature of conceptualizations of time and space is available for and recruited by both classes of particles, and at the same time is reflective of the consistency in the semantics across the cognitive pairs, which is not coincidental. In other words, the correspondences in form and content across the two classes reflect a relationship guided by polysemy rather than homonymy. In this respect, Hopper and Traugott insist that “it is methodologically essential to assume polysemy if there is a plausible semantic relationship, whether or not the forms belong to the same syntactic category, because otherwise relationships between more and less grammaticalized variants of the same form cannot be established either diachronically or synchronically” (Hopper and Traugott, 2003, pp. 77–78). They also offer Croft’s evaluation of what exactly “plausible semantic relationships” are, which amount to the follow-
ing condition: “if many diverse languages independently have the same pattern of ‘homonymy’, then the meanings are closely related” (Croft 1990, p. 166 as cited in Hopper and Traugott 2003, p. 78). And, indeed, there is consistent diachronic and typological evidence from works on grammaticalization that show in a wide variety of languages show spatial elements—spatial nouns and adpositions—developing abstract
grammatical meaning (Heine, 1997; Levinson, 2003; Vasmer, 1950). Furthermore, as we observe that prepositional semantics are indeed a useful tool for exploring prefixal semantics, typological evidence substantiates our understanding of aspectual meaning associated with prefixes as motivated by spatial meaning. More specifically, Bybee, Perkins, and Pagliuca (1994) in the typological work on the grammaticalization of verbal categories identify spatial particles as one of the sources for perfective marking. While not as common as grammaticalized verb stems utilized to denote a perfective aspectual construal—such as have in English—spatial particles were found to have developed into perfective markers in several disparate language families, including—apart from the Slavic languages of the Indo-European family—Georgian (Kartvelian family), Margi (Afro-Asiatic family, Chadic branch), and Mokilese (Austronesian family, Micronesian branch). In all of these languages there is no single spatial particle which develops aspectual meaning but rather many or the majority of spatial particles in a given language are utilized for aspectual marking as a category. In this way the ontogeny of spatially derived aspectual markers and the resulting marking system is substantially different from the languages where verbal derivatives mark aspectual meaning (for instance, English, Romance languages). Furthermore, the particles may affect the meaning of some of the verb stem along the lines of their spatial origin but—as Bybee, Perkins, and Pagliuca. note—the spatial source is not always immediately transparent in the affixed verb stem.

The data below constitutes a sample of suffixed verb stems in Margi from Hoffman (1963)—as reproduced in Bybee, Perkins, and Pagliuca (1994)—with examples representing imperfective unaffixed verb stems and their meaning (45)–(50) and suffixed verbs and their meaning (51)–(56) in the corresponding order. The spatial particle -bá ‘out’ is employed in Margi—alongside -íá ‘downward’ and -ña ‘away’—to signal the perfective aspect. Note that while the distinction between ‘pick up’ in (45)
and ‘pick out, gather out of’ in (51) and ‘throw’ in (46) and ‘throw out’ in (52) is rather straightforwardly spatial, it becomes more complex and abstract with the rest of the pairs, where the perfective counterparts differ more than in just the spatial component, e.g. ‘know’ (49) and ‘know well’ (55); ‘build’ (50) and ‘repair’ (56). The polysemy of the Margi-bá ‘out’ is reminiscent of the range of meanings associated with za- from the clearly spatial ‘behind’ to the more abstract notions of starting and ending a motion event.

(45) dēm
   ‘pick up, gather’

(46) ndâl
   ‘throw’

(47) ṣà
   ‘call’

(48) ‘ùtlà
   ‘cough’

(49) dzàńi
   ‘know’

(50) pà
   ‘build, pile up, fold’

(51) dēmbá
   ‘pick out, gather out of’

(52) ndâlbá
   ‘throw out’

(53) ṣâbá
   ‘call out’

(54) ‘ùtlàbá
   ‘bring out by coughing’

(55) dzànbá
   ‘know well’

(56) pâbá
   ‘repair (broken wall)’

As Bybee, Perkins, and Pagliuca (1994) demonstrate, the phenomenon of recruiting spatial particles as a class for the purposes of aspectual marking is attestable in languages other than Russian, Slavic in general, or even Indo-European. It is true that from the point of view of English grammar, for instance, (and many other Indo-European languages) the spatial origin of aspectual marking may appear rather peculiar. The English aspectual system is highly regular and employs a past participle verb form in combination with a single devoted marker for perfective tenses, i.e. have,
whose semantics are etymologically verbal and have denoted an already rather abstract concept of possession from its early origins. In that sense **have** as an aspectual marker might appear conceptually closer to the verbal category of aspect than spatial particles would. In this light, the idea of spatial origins of aspectual markers may elicit a cautious reaction. However, Bybee, Perkins, and Pagliuca show that Slavic languages – as well as Georgian, Mokalese, and Margi – exhibit a substantial typological difference from other Indo-European languages in the way the category of aspect functions and is marked. Therefore, the approach to Slavic aspect that would be faithful to its origins may have to differ extensively from the traditional treatment of aspect. More specifically in the context of my analysis, as I argue that the category of aspect in Russian is profoundly grounded in the notion of viewpoint deriving from highly generalized spatial experiences, the importance of recognizing the spatial origins of **za-** should not be underestimated.

In general, while there is no agreement in regards to what extent prefixes and prepositions should be treated as a unified class of particles, in this work I will adapt the position that Russian prefixes and prepositions are two distinct morphological classes that nonetheless share defining aspects of their semantics due to their common origins and synchronically persistent parallelism across the cognate pairs. Furthermore, broad typological evidence links aspectual meaning of prefixes to their spatial origins further substantiating our understanding of prefixes as construal-structuring modifiers of events, while prepositional semantics constitute a useful tool for detecting the nature of the motivating spatial configuration. For my treatment of the semantics of **za-**, these considerations compel me to guide my analysis along Tyler and Shakhova’s work on the semantics of the preposition **za** (Tyler and Shakhova, 2008), as I assume that the prefix **za-** is both etymologically and conceptually related to the cognate preposition, deriving its specific meaning from the underlying spatial config-
uration as it is applied to modify the construal of an event. Particularly, in Chapter 6, I employ Tyler and Shakhova claim that the polysemy network of the preposition is guided at a very fundamental level by the dichotomy between the intrinsic and relative reference frames to guide my analysis of the semantics of the prefix za-, which reveals that the two frames of reference play a crucial role in the START/END semantic distinction for the za-perfective determinate and indeterminate verb stems.

3.3 Conclusion

In this chapter I have discussed my understanding of the nature of za-’s contribution to sentence semantics as well as its strong grounding in the spatial domain. More specifically, za- contrasts with other prefixes in the way it affects the verbal stem, while enforcing a particular understanding of what kind of destination is compatible with the construal it introduces, thereby selecting prepositional phrases that can compatibly express the destination of a motion event. Furthermore, I have provided evidence for treating semantics of za- as motivated by its spatial origins as well as employing the cognate preposition za for exploring za-’s meaning patterns.

In the next chapters I develop a cognitively-informed account of competing construals in aspectual representations (Chapter 4), the notion of determinacy motivating the lexicalization of two modes of motion in Russian (Chapter 5), and the semantics of the prefix za- (Chapter 6). Following their separate treatment, I then provide an integrated account of the BEGIN/END semantic pattern of za-perfective motion verbs.
This section is devoted to aspect in Russian. The category of aspect is one of the most complex and theoretically challenging areas in linguistics. Aspect reflects the speaker’s interpretation of temporal texture of an event, and as such represents a highly malleable device for capturing intricate details of one’s construal. In effect, one can view aspect as a grammaticalized tool of self-expression. Perhaps, it is not surprising then that attempts at theoretical interpretations of a linguistic tool, consistently employed to express an interpretation of an event, have experienced so much resistance from the phenomenon and yielded sophisticated, esoteric accounts. In this chapter I restrict myself to a brief working model of aspektual meaning, as a contextualizing entity for the begin/end opposition in the za-perfective verbs of motion. I address the nature of aspect in relation to such notion as grammatical aspect and lexical aspect (or Aktionsart) and how it interacts with the morphological process of prefixation in Russian. I then use the inventory of Cognitive Grammar to account for the nature of aspektual construal.

4.1 Preliminary remarks

The distinction in the construal of an event between (57) and (58) has traditionally been attributed to the category of aspect in Russian.
(57) Саша кушал яблоко.
Saš-a kuša-l jablok-o.
Sasha-NOM.SG eat.IMPERF.-PAST.MASC.SG. apple-ACC.SG.
‘Sasha ate an apple.’ ‘Sasha was eating an apple.’ (He may or may not have eaten it completely; the fact is irrelevant for this construal.)

(58) Саша скушал яблоко.
Saš-a s-kuša-l jablok-o.
Sasha-NOM.SG PERF.-eat-PAST.MASC.SG. apple-ACC.SG.
‘Sasha ate an apple.’ ‘Sasha ate up an apple.’ (The apple has been eaten completely.)

Unlike tense, which is concerned with the deictic temporal properties of an event, aspect reveals how the internal temporal structure of an event is construed by the speaker (Bondarko, 1971; Comrie, 1976; Forsyth, 1970; Maslov, 2004; Anna Andreevna Zaliznyak and Šmelev, 1997). In particular, (57) signifies an event whose temporal boundaries are neither irrelevant or specified, which constitutes the imperfective aspect. Under this construal it is not known—or relevant—to the speaker, whether Sasha ended up eating the whole apple, or if he stopped eating it at some point at all. On the other hand, (58) has a strong association with the completion of the event of eating, which is representative of the perfective aspect. The speaker commits to reporting the fact that some salient change took place as a result of the interaction between Sasha and the apple such that the apple has been eaten by Sasha.

These two aspectual meanings epitomize two competing construal strategies of events in Russian. They also reflect a fundamental, pervading property of the Russian verb. In particular, Russian verbs are consistent in demonstrating aspectual opposition in non-finite forms and even outside of sentential context altogether as they formally commit to representing either the perfective or the imperfective construal of
an event. At the same time, most Russian verb stems have the flexibility to represent either the perfective or the imperfective construal of the event with the help of morphological markers. This is exactly what we observe in (57) and (58), where one verbal stem—kuš—identifies the type of activity (i.e., eating) that Sasha engages in.

The event-specific aspectual construal is reflected in morphological marking, namely, the unprefixed kušal denotes an imperfective event, whereas the prefixed skušal denotes a perfective event. If we were to consider non-finite kušat’ (eat.IMPERF) and skušat’ (s.PERF-eat) outside of context they would still demonstrate the aspectual dichotomy we observe in the context of (57) and (58)—the former denotes a process with an unspecified and irrelevant outcome, and the latter strongly points to the completion of the event of eating.

This pattern is characteristic of the majority of Russian verbs and reflects the paradigmatic nature of the Russian aspect as a binary grammatical category that obligatorily classifies every single Russian verb as either perfective or imperfective (Bin- nick, 1991; Forsyth, 1970; Jakobson, 1927; Maslov, 2004; Šaxmatov, 1963; Švedova 21

Note that while in English the boundedness properties of a noun argument (as contributed by quantization and definiteness) can coerce varying aspectual interpretation of the event (Bach, 1986; Verkuyl, 1972), Russian verbs define the aspectual identity of the event independently of nominal arguments as aspectual marking is already implicit in non-finite forms. For instance, the aspectual interpretation of the English ‘eat’ is determined by the mass/count quality construal of the food consumed such that count nouns induce a bounded (perfective) reading of the event and mass and plural nouns induce an unbounded (imperfective) reading of the event. Such is the difference between ‘ate an apple’ (bounded; perfective) and ‘ate apples’ (unbounded; imperfective) where it is the number of the noun that accounts for aspectual reading rather than the verb. As sentences (57) and (58) show, Russian verbs can designate imperfective events with noun phrases expressing either a single count entity or a plural entity in the object position so that the English ‘ate an apple’ has two counterparts in Russian, one with a perfective verb (skušal jabloko) and another one with an imperfective verb (kušal jabloko) reflecting two possible conceptualization as explicitly represented in language. The reverse is also true: ‘eat apples’ can have a perfective and an imperfective construal depending on the verb. This observation underscores the fact that at least in this context event perfectivity in Russian has precedence over entity boundedness as expressed by the noun in the object position, whereas in English the precedence is reversed (cf. Verkuyl (1989), Filip (1999), Filip (2008)).
et al., 1980). Morphologically, unaffixed verbs generally denote imperfective events and prefixes are the most productive markers of perfectivity. For instance, kušal in (63) lacks a prefix and, therefore, carries imperfective marking; on the other hand skušal contains prefix s- which identifies it as a perfective verb (see Figure 7). The semantic contribution of Russian perfectivizing prefixes have been compared to Germanic verb particles like the English out, off, up (Binnick, 1991; Dahl, 1985), although Slavic prefixes differ from these as having a robust aspectual contribution. In general, prefixation of unaffixed verb stems is concomitant with perfectivization of these stems (Binnick, 1991; Grzegorczykowa, 1984).

Figure 7: Verbal prefixation as an aspectual marker in Russian

The preceding paragraphs lay out the most general view of what constitutes the core of aspectual phenomena in Russian. It is important to acknowledge, however, that the category of aspect in all of its complexity is one of the most controversial topics in linguistics since its origins, mechanisms, and even what linguistic phenomena belong to this category have been questioned over and again, and there is still very little consensus between various research teams and methodological paradigms on these issues. The difficulties of accounting for aspectual phenomena have been expressed by a number of scholars in terms evoking no less than negative connotations and

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22With a rare exception of biaspectual verbs whose perfectivity is determined in context. For a more detailed discussion of this phenomenon see Forsyth (1970); Spagis (1969).

23See Forsyth (1970) for a comprehensive review of aspectual marking patterns in Russian.
frustration. Chatterjee (1988, p. 2) offers a collection of several of these, most notably Macaulay (1978) comparing aspect to “a forest dark, harsh, and unyielding”, Weinrich (1964) judging it “an unfortunate term”24, and Guillaume (1933) making a resolution that aspect cannot be studied directly as a deeply subconscious phenomenon. The situation is further complicated by the fact that the category of aspect in Slavic and Russian specifically has been the subject of a long scholarly tradition, which until the present day has not been able to consolidate its views on many aspectual phenomena in Russian (see Chatterjee (1988, pp. 5–16); Binnick (1991, pp. 139–149) on the history of studies in aspect). In the meanwhile, the field of aspectology in modern linguistics has been significantly affected by the study of aspect in the Slavic languages (Bondarko, 1971; Isačenko, 1965; Maslov, 1984, 2004; Vinogradov, 2001), since it is in these languages that the category of aspect was first identified and described, and in many ways, implicitly or not, these first discoveries still inform some of the assumptions and methodological procedures applied to the study of aspectual phenomena in general (e.g., Comrie (1976); Thelin (1978)). More recent typological studies, however, have been showing that grounding aspectology in Slavic may well be ill-warranted—if not historically inopportune—since the Slavic aspect, apart of the many variations within the family itself (see Dickey (2000)), represents rather a system that is “different from the ‘normal’ cases” (Dahl, 1985, p. 84), or even typologically “deviant” (p. 189, ibid; also see Binnick (1991); Janda (2004) for similar claims). Likewise, equating Slavic aspectual system to other Indo-European languages with robust aspectual categories, like Greek and Latin, on the presumption of their structural similarity due to their common ancestor, may have prompted for erroneous interpretation of the Slavic aspect Binnick (1991).

24"Ein unglücklicher Begriff.”
It is not my purpose here to provide a complete account of aspect in Russian, especially in the light of the controversy associated with this notion. Nevertheless, I do identify areas of aspectual phenomena that are of particular relevance for my analysis of za-perfective motion verbs and adapt specific working definitions and understanding of various aspectual phenomena as key assumptions guiding my analysis, which need to be declared. The rest of this section will be devoted to articulating my stance on two important issues in this regard: what aspect is vis-à-vis its representation as the grammatical aspect and the lexical aspect (or Aktionsarten), and how verbal prefixation as a morphological process is related to the expression of aspectual meaning.

4.1.1 Grammatical aspect and lexical aspect

There is a strong sense of disparity in the literature when it comes to “aspect” as a term. Depending on the author and the context of the discussion the term can be used to denote “grammatical aspect”, “lexical aspect”, also known as Aktionsart, or the combination of the two. For instance, following the view established by Jakobson (1927) and generally accepted in aspectology, Šaxmatov (1963) regards perfective and imperfective as the two principal members of the aspectual category with lexical aspectual meanings constituting, what he calls, “sub-aspects”\(^\text{25}\) of the two (similar claims in Forsyth (1970); Isačenko (1965)). From this perspective, meanings attributed to lexical aspect are treated as representing more specialized subcategories internal to either the perfective or imperfective categories. Maslov (2004, p. 387) among others argues that the characterizing the relationship between the grammatical and lexical aspect is unwarranted since some instances of the lexical aspect span both perfective and imperfective aspect (also see Bondarko (1971, pp. 11-21) and Janda (2007,\(^\text{25}\)Russian “подвиды”.

85
Furthermore, he claims that treating lexical aspect as a subcategory within the grammatical aspect assumes that the grammatical and lexical aspects belong to the same type of linguistic phenomena differing only in their scope, and that such an assumption is not necessarily grounded (a view shared by Thelin (1978); Vinogradov (2001)). Filip (1999, 2003) also proposes that the grammatical and lexical aspect, while “interact[ing] in systematic ways”, are actually “orthogonal to each other” (Filip, 2003, p. 55). Chatterjee (1988) goes even further to say that separating grammatical aspect from Aktionsart phenomena “has not really solved anything” (p. 25), as he argues for elasticity not only between these two notions but also between the perfective and imperfective representations of grammatical aspect (for a comprehensive review of approaches to Slavic aspect see Bremel (1997, pp. 25–56)).

Thus far I have been using “aspect” to refer to what is traditionally called grammatical aspect in its instantiation as the binary opposition between the perfective and imperfective aspects. In the context of my discussion I necessarily expand my analysis to phenomena that have been attributed to the domain of the lexical aspect. While I will still use “aspect” to talk primarily about the grammatical perfective vs. imperfective opposition I need to establish how I am going to treat the relation between grammatical aspect and lexical aspect.

In general, I take a hybrid approach to aspect in that I view the two aspectual phenomena as distinct but related. That is, while I do recognize the complexity of aspectual meaning that goes beyond the binary opposition as emphasized by Maslov (1984), I treat the semantic patterns associated with the category of aspect largely in line with the more traditional understanding of the primary status of the perfective/imperfective opposition and Aktionsarten representing more specialized categories of the two (Forsyth, 1963; Jakobson, 1927; Šaxmatov, 1963). My choice of this
Figure 8: Aspectual hierarchy in Russian. Lexical aspect instantiates grammatical aspect and grammatical aspect instantiates the ubiquitous category of aspect. Each level has specific representations.

The view is informed by Langacker’s understanding of many grammatical categories constituting a schema-instance hierarchy (Langacker, 1987), which is a pervasive notion in CL theory. Within a schema-instance hierarchy, a broad range of more specific representations (such as Aktionsarten) instantiate a highly abstract ubiquitous schema of the whole grammatical category (grammatical aspect). More specifically, it has been observed that the more precise interpretation of aspectual meaning for a particular event depends on wider context such as semantics of the verbal stem (Apresjan, 1967; Bondarko, 1971; Dowty, 1986, 1991; Krifka, 1986, 1992; Krongauz, 1994; Maslov, 1984; Thelin, 1978; Vendler, 1967; Anna Andreevna Zaliznyak, 1995), mass/count qualities of nominal entities involved in the event (Bach, 1986; Filip, 1999, 2008; Paducheva, 2008; Smollett, 2005; Verkuyl, 1972, 1989), broader pragmatic context (Dowty, 1986; Fielder, 1990; Krifka, 1992; Paducheva, 2010; Zel’dovich, 2002), which in Russian is expressed by a wide range of perfectivizing and imperfectivizing affixes (Bogusławski, 1963; Comrie, 1976; Flier, 1975; Forsyth, 1970; Gardiner, 1979; Glovinskaja, 2001; Maslov, 1984).
The range of meanings we find across za-perfective motion verbs, such as reaching the destination in a motion event in (59) or beginning a motion event in (60), is an example of these instantiations for perfective aspect and have been associated in the literature with the terms “lexical aspect”, “aspectuality”, “способ действия”\(^{26}\), or “Aktionsarten”\(^{27}\) (Dowty, 1979; Filip, 1999; Mustajoki, 2008; Paducheva, 2010; Stoll, 2001; Thelin, 1978; Verkuyl, 1993)\(^{28}\). At the same time there is a consistent overarching semantic quality associated with the opposition between the perfective and the imperfective conceptualizations of an event. The binary opposition between events in (61), (62), (63) on the one hand and (59), (60), (64) on the other hand is informed by this quality; it is this pervasive distinction that is commonly referred to as “grammatical aspect”. Therefore, in my treatment specific aspectual instantiations come close to the traditional notion of lexical aspect and the abstracted schematic representation evokes the notion of grammatical aspect (see Figure 8).

(59) Соня зашла.
Sonj-a za-ˇs-l-a.
Sonya-NOM.SG za.PERF-walk\(_1\)-PAST-FEM.SG.
‘Sonya walked in.’

(60) Саша заходил.
Saˇs-a za-xodi-l-∅.
Sasha-NOM.SG za.PERF-walk\(_2\)-PAST-MASC.SG.
‘Sasha started to walk.’

(61) Соня шла.
Sonj-a š-l-a.
Sonya-NOM.SG walk\(_1\).IMPERF-PAST-FEM.SG.
‘Sonya was walking.’

\(^{26}\)Russian “mode of action”.
\(^{27}\)German, lit. “action kinds”.
\(^{28}\)For a detailed review of historical and current trends in approaching to aspect and Aktionsarten, see Filip (2011).
(62) Саша xodil.
Sasha-NOM.SG walk2.IMPERF-PAST-MASC.SG.
'Sasha walked.'

(63) Саша kušal jablok-o.
Sasha-NOM.SG eat.IMPERF.-PAST.MASC.SG. apple-ACC.SG.
'Sasha ate an apple.' 'Sasha was eating an apple.' (He may or may not have eaten it completely; the fact is irrelevant for this construal.)

(64) Саша s-kušal jablok-o.
Sasha-NOM.SG PERF.-eat-PAST.MASC.SG. apple-ACC.SG.
'Sasha ate an apple.' 'Sasha ate up an apple.' (The apple has been eaten completely.)

From this point of view then the overall aspectual distinction of the events in (63) and (64) is two-fold. As far as the concrete instantiation of aspectual construal in the particular context of these sentences is concerned, we can recognize the meaning associated with the prefix s- in (64) as contributing substantially to the specific aspectual interpretation of (64). Here the prefix highlights the entirety of the event of eating, where Sasha starts eating an apple and progresses until he is done; the event is viewed holistically.

This meaning is specific to s- and is different from the construal we find for example in (65) where it is not known—or relevant to the speaker’s construal—whether the apple has been eaten completely. Rather, the construal of the event is concerned with the fact that Sasha finished eating a portion less or equal to the whole apple; this idea of an increment is associated with the prefix po- (cf Dickey (2006); Flier (1986) define the contribution of po- as an indefinite temporal duration).

(65) Саша pokushal jablok-o.
Sasha-NOM.SG po.PERF-eat.IMPERF.-PAST.MASC.SG apple-ACC.SG.
‘Sasha ate an apple. Sasha ate some portion of an apple.’ *The apple may or may not have been eaten completely, but Sasha is done eating it.*)

At the same time (66) focuses on yet another construal where Sasha is understood to have finished eating an apple that was previously consumed to some degree—but not entirely—by Sasha or someone else.

(66) Саша докушал яблоко.  
Saˇ s-a do-kuˇ sa-l jablok-o.  
Sasha-NOM.SG do.PERF.-eat-PAST.MASC.SG apple-ACC.SG.  
‘Sasha ate an apple. Sasha finished the apple.’ *(He or someone else ate a part of the apple before, and now he finished it up completely.*)

Here the speaker highlights the very last stages of the activity leading to the extinction of the apple. In that sense it is not surprising to find inferences commonly associated with this use, where Sasha is understood to be finishing it up after himself or somebody else. The construal focuses then on the action immediately preceding and including the point where none of the apple is left. Overall, these three sentences illustrate the variety of specific aspectual interpretations which arise from the particular semantics of the prefixes and are all specific instantiations of perfective aspect.

Alternatively, if considered in the context of category general connotations, (64), (65), and (66) are collectively in contrast with (63) as the former three commonly denote a construal where the speaker observes resultant change ensuing from Sasha’s interaction with an apple as it terminates. Note that here it is not important, whether the whole or only a part of the apple was eaten (which is the difference between (64) and (65)), or what particular facet of the situation is observed or considered (difference between (64) and (66)); instead the focus is on the fact that *some change took place and at the point of observation the process of change is over.* This is precisely the
meaning that is associated with the perfective grammatical aspect. On the other hand the imperfective (63) avoids committing to a resultative view of the action and while some change may have occurred throughout Sasha’s interaction with the apple the outcome of it is unknown and irrelevant. Note that my interpretation of (63) and (65) may seem somewhat similar, but in fact they are substantially different precisely because of the construal imposed by perfectivity. The event in (65) does not imply that the apple was eaten completely but it reveals the speaker construing a change that took place and terminated; in (63) there is no sense of termination but rather an understanding of interaction taking place without any implicit temporal limit.

While my treatment of \textit{za-} will necessarily address the concrete aspectual instantiations akin to those differentiating the construals in (64), (65), and (66) in this section I am primarily concerned with grammatical aspect and how imperfective events (e.g., (63)) are different from perfective events (e.g., (64), (65), and (66)). As I have pointed out, the principal semantic differences which are accountable for the contrast between (59), (60), (63) and (61), (62), (64), (65), (66) are attributable to the notions of change and termination. To summarize, \textit{imperfective verbs} denote events without an explicit idea of termination in an activity or a process taking place, whereas \textit{perfective verbs} evoke a construal of an event incorporating change which is understood to have terminated.

What I would like to emphasize here is that the semantic value I assign to the perfective and imperfective aspects should not be confused with a suggestion for the mechanism guiding the distribution of these two construals. Rather, these definitions are mere interpretations we can abstract from a series of sentences, where aspectual meaning is arguably used in some of its most prototypical contexts. I rather rely on these two types of interpretation of the aspectual meaning to guide my account of the aspect within the cognitive linguistics framework later in this chapter.
Indeed, while some accounts ultimately aim to capture the invariant meaning governing the aspectual opposition between the perfective and imperfective aspects (for instance, “wholeness”, “completeness” (Jakobson, 1927), “processuality” (Bondarko, 1971; Maslov, 1984), “resultativity” and “totality” (Isačenko, 1965), “±TIME” (Thelin, 1978)), I eschew the invariantism in the description of aspectual meaning just as I have argued against it in the treatment of prefixal semantics. As Haltof (1967, p. 735) observes: “The information contributed to the semantic interpretation of any sentence by the grammatical morpheme “aspect” in its potential realization as “perfective” or “imperfective” is obviously complex and cannot be captured in an “invariant meaning” for one or both members of this grammatical category.”

For these reasons I particularly capitalize on the understanding that the two construals are motivated by complex clusters of cognitive strategies, which in turn motivate aspectual meaning ranging from the more prototypical instances to those at the periphery of an aspectual category. The difference between this view and the search for the invariant is a subtle but very important one: the motivating construal does not have to be captured by a single notion or consistently applicable to all and every use of the particular meaning. This is the approach adapted, for example, in Janda (2004), who proposes that the idealized cognitive models pertaining to the texture of physical matter provide source domains for the conceptualization of aspectual meaning, such that Perfective is a Discrete Solid Object and Imperfective is a Fluid Substance. Likewise, Filip (1999, 2003) offers a “mereological” account of the aspectual meaning, where “the notions of ‘part’ and ‘whole’ constitute the semantic

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29c: Die Information, die das grammatische Morphem “Aspekt” in seiner möglichen Realisierung als “imperfektiv” oder “perfektiv” für die semantische Interpretation eines jeden Satzes liefert, ist offensichtlich komplex und kann nicht in einer “Gesamtbedeutung” eines oder beider Glieder dieser grammatischen Kategorie erfasst werden.” As cited in Thelin (1978, p. 29).
core of perfective and imperfective aspect in natural languages” and provide the basis for phenomena associated with both the grammatical and lexical aspect, while also highlighting a strong relation to the mass/count distinction in the nominal domain (Filip, 1999, p. 216).

My own account of the aspectual meaning is similar to Janda’s and Filip’s as it takes on a series of fundamental notions to be the determining principles motivating the aspectual meaning. It differs from both, however, in the methodological commitment to the inventory of notions developed by Langacker (1987, 1991); Talmy (2000) capturing cornerstone cognitive constructs and processes as they permeate human cognition and language and ultimately motivate the persistent patterns in both. More specifically, I view Janda’s utilization of the fluid/solid opposition as an insightful foundation for a metaphorical understanding of aspectual meaning, which nonetheless is secondary to the more abstract notions of boundedness, scanning, and degree of viewer’s perspective (cf experiential basis metaphors in Lakoff (1993)). The latter notions pertain to foundational cognitive and processing capacities, which as a system can give rise to the conceptualization of an entity as fluid or solid. Likewise, I also find Filip’s mereological approach to aspect and nominal mass/count opposition profound in many ways, however, it, too, focuses on the properties of entities in the world “out there” rather than the interaction of perception and cognitive strategies that license conceptualization of an spatial entity or an event as either part or whole. In other words, I propose that in the analysis of aspect we consciously and consistently direct our focus from the properties of events that characterize and describe them as either part or whole, fluid or solid, to the observer and the particular mechanisms that conspire to elicit one of these construals, because ultimately these properties are no more than a reflection of the perceptive and cognitive mechanisms. In this respect, while acknowledging the importance of questions about what makes a certain event or
entity to be conceptualized as a part or a whole, the more fundamental question pertains to the mechanisms that allow the observer to shift between the two entrenched construals as he or she composes an appropriate, relevant or, as Paducheva (2010, p. 405) terms it, “egocentrically-motivated”30 view of an event.

The fluidity and adaptability of the conceptualization in humans is widely explored, with alternating visual imagery of vase-face, or rabbit-duck illusions being among the most recognizable; in these instances it is the ability to shift the focus and/or the appropriate Gestalt selection of particular patterns and shapes that allows the alternation between the two competing images (see Hasson et al. (2001) and references therein). Applied to language domain, a similar ability must permit a potentially alternating conceptualization of an event as perfective or imperfective, which can then be employed by the speaker to represent various facets of this event, structure and restructure its internal texture based on the communicative needs (Fielder, 1990; Hopper, 1982), with the principle goal of expressing the construal emanating from the self (cf Verkuyl (1993, p. 268): “... Aspect gives speakers the means to encode their wish to speak about (terminative) events, or (unbounded) processes, or states”). If the two competing construals are at some level equally accessible to the observer, a particular strategy enabling conscious alternation between the two must be pervasively employed by the speaker as the relevant construal is determined. Talmy and Langacker propose that these changes in event construal are validated by the ability of humans to shift focus within the conceptualization scene and change the extension of the visual field on an event by means of perspective magnification or perspective

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30“... Эгоцентричность—ориентация на говорящий субъект, заложена многообразными способами в структуру языка; без ориентации на говорящего субъекта язык не обладал бы своей уникальной и удивительной способностью с помощью весьма ограниченных средств достаточно точно и однозначно описывать бесконечные в пространстве и во времени реальные и нереальные миры.”
reduction. These mechanisms are understood to be in direct correlation with and an
abstract cross-domain extension of the processing strategies involved in interaction
with concrete visual information. While the majority of previous studies on aspect
have primarily focused on the nature of part/whole, bounded/unbounded, and other
similar oppositions, my account of Russian aspect is informed by the set of notions
pertaining to construal shifts. In this sense, the notions of bounded/unbounded events
still play an important role in my account, but these properties are defined rather
as a function of the specific conceptualization strategy involved. Furthermore, the
members in the bounded/unbounded opposition, for example, are treated with the
implicit understanding of a deep connection between the two—a conceptual transfor-
mation that can reshape one into another.

4.1.2 Are prefixes markers of perfectivity?

Thus far I have assumed the position that prefixation and perfectivization are con-
comitant processes, which suggests that prefixes are markers of aspectual meaning
and as a class consistently express grammatical aspect, as I schematically represent
in Figure 7 on . However, linking prefixation and perfectivization as a symbolic form-
content pair employed for the expression of aspectual meaning has been disparaged
as inaccurate (Isačenko, 1965). The driving assumption of this view is that in order
to be a fully-fledged marker of perfectivity, prefixes much demonstrate attributes of
inflectional morphemes. However, there is little agreement whether prefixes consti-
tute a set of inflectional or derivational morphemes. What many scholars agree on
is the observation that prefixes demonstrate features hard to attribute to either one
of the morphological categories, in that by perfectivizing a verb they also affect to
some degree its lexical meaning Bondarko, 1971; Isačenko, 1965, or that some pre-
fixes are more derivational than others (Dahl, 1985; Townsend, 1975). For example,
s- (delat’.IMPERF ‘doIMP’ → s.PERF-delat’ ‘dOPERF’) and po- (stroit’.IMPERF ‘buildIMP’ → po.PERF-stroit’ ‘buildPERF’) are claimed primarily expressing an aspectual meaning and contribute little—if any—lexical contribution to the stem (Dickey 2000, p. 8; Filip 1999, p. 192). Maslov (2004, p. 447) specifically articulates that “perfectivization is a derivational operation... accompanied by the emergence of perfective grammatical meaning... This meaning... is predictable, however, it is not a primary but a collateral product of a lexical, derivational operation.”

Finally, Filip (1999, 2003) proposes that the aspectual “operators” are distinct from prefixes, since prefixes do not behave like aspectual markers. She identifies English and French as possessing proper aspectual markers, which are, for instance, “instantiated by clearly identifiable forms” and cannot stack (Filip, 1999, p. 196)

The question of whether or not prefixes in fact expresses perfectivity is framed in relation to their status as inflectional or derivational morphemes; the two issues tend to be conflated. I will take on Filip’s discussion and show that they do not have to be. Filip’s assumptions is that only inflectional morphemes can express aspectual meaning and, therefore, as she shows that prefixes demonstrate robust properties of derivational morphemes, prefixes in fact do not express perfectivity. Filip’s account is inadequate in two respects. First, the defining properties of inflectional morphemes are assumed from tense markers in English and French, which is bound to result in a bias of what it is precisely that constitutes an inflectional morpheme. And, naturally, in many respects Russian morphology differs from the defining patterns of

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31: “То, что называют перфективизацией есть в громадном большинстве случаев чисто словообразовательный приём, приём создания нового глагола, нового лексического значения, нового способа действия, т. е. словообразовательный приём, лишь сопровождаемый возникновением перфективного грамматического значения... Это грамматическое значение совершенного вида выступает здесь, следовательно, в качестве закономерного, но не главного, а лишь побочного продукта лексической, словообразовательной операции.”
the English and French morphological systems. Furthermore, Filip (following Spencer (1991)) considers mixing inflectional and derivational features in single morpheme a terminological fallacy, which is only substantiated by theory internal requirements. At the same time, the justification for the dichotomy of the inflectional/derivational morphemes has been questioned, particularly in language processing studies. For example, Schriefers, Friederici, and Graetz (1992) show that there are “asymmetries in the pattern of priming effects between different inflectional forms of German adjectives”, which are comparable to asymmetries in priming effect patterns between inflectional and derivational morphemes, suggesting that what is traditionally distinguished as inflectional and derivational morphology may in fact share fundamental cognitive mechanisms (but see Miceli and Caramazza (1988) for contesting evidence).

Second, and most crucially, by demoting prefixes from the status of morphemes expressing aspectual meaning, Filip’s account leaves a fundamental question unanswered: if it is not prefixes that mark perfectivity in prefixed verbs then what does? In this respect I once again evoke Langacker’s symbolic thesis, which highlights the “form-meaning congruence” (Langacker, 1982, p. 299): form reflects meaning and meaning is expressed by some form. There is no need to propose an abstract aspectual operator separate from a prefix, when there is otherwise no other linguistic material other than the prefix that could be introducing the aspectual meaning.

Besides, there is evidence from other parts of the Russian aspectual system that supports this view, especially if we consider the diachronic perspective on the genesis of the modern aspectual system in Russian. In particular, the perfectivizing function of prefixes is to be seen as induced by the structure of the aspectual system in its interdependent entirety. More specifically, the formal representation of perfectivity as perfectiviztion-by-prefixation is reinforced by the class of imperfectivizing suffixes. These suffixes produce imperfective verbs from prefixed perfectives but unlike pre-
fixes have minimum semantic contribution to the verb are considerably less numerous than the perfectivizing prefixes, while also far more regular in their distribution. In fact, Comrie (1976) and Maslov (1984) propose that diachronically, secondary imperfectivization proved to be an important component of "systematization of aspecual opposition" (Comrie, 1976, p. 90). Silina (1982) provides a detailed account of the genesis of the contemporary aspecual opposition in Russian from the Old Russian and concludes that imperfectivization, in fact, served as a “semantic core that created and consolidated [the aspecual] category” 32(Silina (1982, p. 162); also see Ivanov (1990, p. 347) for similar claims. While prefixation originally augmented the semantics of the verbs in the spatial domain and inconsistently entailed what we now consider the perfective construal (Bremel, 1997, p. 474–475), expressing the construal of event duration and continuity was marked with a number of suffixes of which -iva-/-yva- proved to be most productive due to its abstract semantics and phonological versatility, allowing it to combine unrestrictedly with a wide variety of stem classes. This productivity also functioned as a vehicle for the wide expansion of the secondary imperfectives fueling the formalization of the durative meaning into a grammatical category of imperfectivity. This process caused a “polarization” of aspecual meaning, delineating the semantics of perfectivity as a grammatical category. Crucially, at this point “with the development of the semantics of the perfective aspect, prefixes were re-conceptualized as aspecual markers, assigning the perfective meaning to the verb stem [italics mine]. This, in its turn, led to polarization of aspecual meanings in correlations between cognate unprefixed and prefixed verbs and inclusion of the unprefixed verbs [as formally imperfective] into the aspecual system” 33 (Silina, 1982,
Effectively, the contemporary aspectual opposition between the prefixed and unprefixed verbs is a corollary of the rise of imperfectivization-by-suffixation, which is referred to now as “secondary” evoking the degree of morphological complexity rather than its salience in the genesis of the Russian aspectual system.

The diachronic perspective gives a better understanding of the nature of perfectivity in Russian and how it is related to prefixation. In particular, I insist that the perfectivity value associated with prefixation is reinforced by the imperfectivizing value of suffixation such that in the absence of these clear markers of imperfectivity the perfective contribution to the stem is analogically tied to prefixation. In other words, the morphological process of prefixation is interpreted symbolically to mark a change in the aspectual meaning of the verb, i.e. *morphological structure is assigned meaning*. This view of prefixation provides for a more complex understanding of the perfectivization mechanism in Russian and clarifies its status as an inflectional category despite Filip’s and others’ reservations. That is, perfectivizing prefixation in Russian has a status of a morphological construction, where it is not the contribution of specific prefixes which introduces the aspectual meaning, but rather the structural presence of any prefix. Prefixation, in this sense, is an abstract inflectional category not tied to the identity of a single phonological form, but rather to a set of forms occurring in a specific morphological position. This view has clear parallels to Goldberg’s understanding of the semantics contribution of abstract constructions, where it is the construction itself, filled out by a specific and compatible word, that carries meaning (Goldberg, 1995, 2006). To draw a parallel with the English past tense marking, the specific representation of the morpheme /-ed/ depends on the phonological environment and can be represented by [-ed], [-d] or [-t]. All three representations,
despite their phonetic differences, are instantiations of the same abstract type /-ed/.
The abstract type of the Russian aspectual marking has a considerably less specified phonological identity, but still requires that its instantiation precede the verb and be a bound morpheme from a closed class of possible choices. Therefore, the regularity and productivity of perfectivization as an inflectional category arises from consistent application of any of the prefixes in this set to the verb stem producing a perfective form. Each prefix individually is then understood to contribute the category-general, or construction-driven, perfective value as well as prefix-specific meaning to the verbs stem. The construction meaning can be then equated with the grammatical aspect (perfectivity), while the contribution of the prefix is a representation of the more specific Aktionsart or spatial meaning.

This subsection has highlighted my understanding of prefixation as the perfectivization process, regardless of its highly debated status in relation to the inflectional and derivational morphological categories. Prefixes make a complex contribution to the verbal stem, introducing not only the perfective aspect but also idiosyncratic prefix-specific meaning. What this means for my analysis of za- is that it combines the general perfective meaning with its own specific meaning, where the latter is fundamentally motivated by the spatial configuration. In the next section I explore the spatial configuration that motivates the aspectual semantics, as I draw parallels between human conceptualizations of space and time. By accounting for the general meaning of the perfective aspect and its origins in the spatial domain, I can gain a better understanding of what in the contribution of za- to the verbal stem amounts to its specific semantic component and how its meaning interacts with the perfective aspect, which will help me elucidate the motivations for the START/END patterns in za-perfective motion verbs.
4.2 A COGNITIVE ACCOUNT OF GRAMMATICAL ASPECT

Thus far I have relied on the more traditional ways of capturing the perfective vs. imperfective aspectual meaning by defining the central meanings of the two categories. To reiterate, imperfective verbs denote events without an explicit idea of termination in an activity or a process taking place, whereas perfective verbs evoke a construal of an event incorporating change, which is understood to have terminated. Furthermore, as I tried to represent how the construals of perfective and imperfective events differ, I have not addressed the ability of the observer to assume one of the two construals for the same objective event.

My analysis of za- perfective verbs of motion derives from recognizing how critical the spatial domain is for prefixal meaning and aspectual semantics. In order to flesh out a spatially motivated analysis of the Russian aspectual system, I will, first, explore how our current understanding of aspect can be articulated with the recognition of the homology in representations of time and space; and, second, explicate the mechanism that enables the speaker to adopt and alternate between the perfective and imperfective construals of an event. The two goals are closely related in that—as I show below—by recognizing the nature of temporal perception of events as homologous with perception of spatially situated entities, we can draw on the notion of speaker’s perspective to account for the shifts between perfective and imperfective construals as reflected in aspectual marking of the verb.

The homologous status of the domains of space and time has been widely acknowledged across various studies of mental representations, establishing it as one of the defining features of perceptive and cognitive systems in general. In non-human species, for instance, there are commonalities in the processing of time, space, and quantity, as has been experimentally confirmed in pigeons, rats, and primates (Bran-
non and Roitman, 2003; Church and Meck, 1984; Gallistel, 1989), which is “strongly suggestive of shared mechanisms across species” (Bueti and Walsh, 2009, p. 1831). But it is in humans that the correlation between spatial and temporal mental representations has been studied and attested most extensively. Both, adults (Xuan et al., 2007) and preverbal infants (Lourenco and Longo, 2010) have been shown to estimate temporal duration of an event proportionately not only to the physical size of the stimuli, but also to the scale of the environment (DeLong, 1981). The perception of self-motion, too, has been demonstrated to reflect a closely integrated spatio-temporal processing of the event (Glasauer et al., 2007). Even more abstract constructs like the mental timeline show a mental representation correlated with size and location of stimuli such that subjects consistently associated events of shorter duration with the left space, while longer periods were associated with the right space (Di Bono et al., 2012). More specific neurological evidence comes from electrophysiological procedures and magnetic resonance imagining showing the neurons in the macaque’s posterior parietal cortex activating for sensorimotor integration and processing of both space and time (Leon and Shadlen, 2003). Likewise, in human posterior parietal cortex, the administration of transcranial magnetic stimulation to the spatial and temporal processing areas has revealed that the two areas overlap each other in the brain, as subjects experienced difficulties in carrying out spatial and temporal tasks during the procedure. The spatial and temporal processing areas in the prefrontal cortex have also been found to overlap (see Walsh, 2003 for a detailed discussion of these findings and specific references). The proximity and homology of the brain areas carrying out spatial and temporal processing is suggestive of the fact that the spatial and temporal

34 Also see Mandler (1992, p. 597) for a discussion of studies showing metaphorical mappings between spatial patterns and auditory perception in infants, further exemplifying the persistence of cross-modal mapping in cognition.
cognition strategies share neurologically overlapping architecture, and in that sense the spatio-temporal homology is embodied in the structure of the brain.

The close interrelation between spatial and temporal cognition in relation to language has been theorized by a number of researchers, most notably Lakoff and Johnson (1980); Talmy (1988); Traugott (1978)\textsuperscript{35}. These works have in one way or another implied not only a strong connection between the two types of mental representation, but also proposed that in some way spatial cognition informs temporal cognition, which is suggested by consistent patterns in linguistic expression of time. Lakoff and Johnson (1980), in particular, have suggested that the temporal domain is structured by unidirectional mappings from the spatial domain. Research by Boroditsky and her colleagues have provided evidence for a hierarchy in the homology of spatial and mental representations, claiming that there is an asymmetry between the domains of space and time, and “abstract domains such as time are indeed shaped by metaphorical mappings from more concrete and experiential domains such as space” (Boroditsky, 2000, p. 26). This asymmetry is motivated by the fact that “our mental representations of things we can never see or touch may be built, in part, out of representations of physical experiences in perception and action” (Casasanto and Boroditsky, 2008, p. 590; also see Casasanto, Fotakopoulou, and Boroditsky, 2010; Gentner, Imai, and Boroditsky, 2002). In relation to mental representation of aspect, a few studies have specifically put forward the idea that aspect “appears to stem from the neural structure of our system of motor control” (Feldman, 2006, p. 7).

One of the most advanced and developed theoretical discussions of the structural homology between the the domains of space and time is offered by Talmy (2000). Drawing parallels between configurational forms of physical entities and events arising from human perception and processing, Talmy introduces seven schematic categories

\textsuperscript{35}See Casasanto and Boroditsky (2008) for further references.
that capture the range of variability in the configurational structure of spatial and
temporal entities. Together these categories define the range of “schematic structuring
and the geometric configurations in space or time . . . that closed-class forms can
specify” (Talmy, 2000, p. 47). In this way, Talmy devises a system that utilizes the
understanding of the spatio-temporal homology to deconstruct the inner workings
of closed-class units like adpositions and various markers of grammatical meaning.
In relation to the structuring of events as reflected in aspe ctual meaning, recognizing
spatiotemporal homology then is recognizing the fact that spatial and temporal
conceptualizations are closely intertwined and a conceptually motivated analysis of
aspect requires a notion inventory spanning both domains. While Talmy (2000) and
Langacker (1987) offer a scaffolding of notions pertaining to structuring patterns of
cognitive and linguistic representations of space and time, their discussion of aspe ctual
meaning mainly concerns the aspe ctual patterns of English, and with the exception
of works by Janda (2004) and Dickey (2000, 2011), no coherent account of Russian
aspect has been performed employing the notational inventory of Cognitive Gram-
mar. In the discussion below I employ the notions boundedness (Langacker, 1987,
pp. 258–262; Talmy, 2000, pp. 51–55), degree of extension (Talmy, 2000, pp. 61–62),
focus element (Talmy, 2000, pp. 87–88)\textsuperscript{36}, and scanning (Langacker, 1987,
pp. 144–145, 248–249)\textsuperscript{37} to both explicate the difference in the construal between perfective
and imperfective events and to discuss exactly how the shifts in perspective affect the
aspe ctual construal of an event. It is the congruency of these notions that accounts
for the complex of alternating construals characteristic of the perfective and the im-

\textsuperscript{36}Langacker (1987, pp. 246–247, 116) discusses it in terms of “profiling” of a certain aspect
in a construal, also “focal adjustments”.

\textsuperscript{37}Talmy (2000, pp. 71–72) proposes similar notions of “sequencing” and “synopticizing”,
which do not get the same level of articulation as in Langacker’s treatment.
perfective aspect. In the following section I will use the term “aspect” to talk about what has been traditionally identified as “grammatical aspect”.

4.2.1 Boundedness

Drawing on the idea that boundaries are applicable not only to entities that demonstrate continuity in space but also those that demonstrate continuity in time, Talmy identifies the difference in construal between perfective and imperfective events as expressed in the notion of boundedness. Unbounded events have no intrinsic terminal points as if continuing endlessly, whereas bounded events have distinct boundaries providing for the event’s individuated status. In terms of boundedness then, the event in (67) is unbounded, and the events in (68), (69), and (70) are bounded.

(67) Саша кушал яблоко.
Saš-a kuša-l jablok-o.
Sasha-NOM.SG eat.IMPERF.-PAST.MASC.SG. apple-ACC.SG.
‘Sasha ate an apple.’ ‘Sasha was eating an apple.’ (He may or may not have eaten it completely; the fact is irrelevant for this construal.)

(68) Саша скушал яблоко.
Saš-a s-kuša-l jablok-o.
Sasha-NOM.SG PERF.-eat-PAST.MASC.SG. apple-ACC.SG.
‘Sasha ate an apple.’ ‘Sasha ate up an apple.’ (The apple has been eaten completely.)

(69) Саша покушал яблоко.
Saš-a po-kuša-l jablok-o.
Sasha-NOM.SG po.PERF-eat.IMPERF.-PAST.MASC.SG. apple-ACC.SG.
‘Sasha ate an apple. Sasha ate some portion of an apple.’ (The apple may or may not have been eaten completely, but Sasha is done eating it.)

(70) Саша докушал яблоко.
Saš-a do-kuša-l jablok-o.
Sasha-NOM.SG do.PERF.-eat-PAST.MASC.SG. apple-ACC.SG.
‘Sasha ate an apple. Sasha finished the apple.’ (He or someone else ate a part of the apple before, and now he finished it up completely.)

The diagrams in Figure 9 and Figure 10 summarize the distinction between these two types of events. The quality of boundedness is represented by a bolded segment on the timeline. For bounded events, the segment is clearly delineated on both sides. For unbounded events the segment does not have clear demarcated endpoints and extends limitlessly in the directions of the past and the future which is represented by dashed lines going in both directions.

![Figure 9: Unbounded event](image)

![Figure 10: Bounded event](image)

The notion of boundedness alone is nonetheless insufficient to fully motivate the difference in the construal of events in (67) and (68)–(70). By establishing a dichotomy between perfective and imperfective events only by means of boundedness, we do not advance much further in our understanding of how the two aspectual construals can arise from a single objectively-occurring event in the world outside of human perception and conceptualization. That is, I have described how the event of eating an apple can give rise to multiple construals which arrange themselves according to
the notion of boundedness into bounded and unbounded instances. The bounded and unbounded construals as reflected in language structure vis-à-vis aspectual marking in Russian give the speaker control of whether or not to accentuate the temporal limits of an event. But what kind of cognitive mechanism is responsible for allowing the shift between the bounded and unbounded construals in the first place? That is, how can one transition between the two competing construals? The answer to this question is fundamental to our understanding of how a construal transition occurs between the construal of perfective vs. imperfective events.

These observations suggest that in order to recognize the difference in construal between (67) and (68)–(70) apart from the event’s terminal points we need to also pay attention to its internal composure and how it is construed. The notions of degree of extension, focus element, and perceptual scanning lend the inventory necessary to elaborate the aspectual distinction at a more profound level. All of them rely on the understanding that events are conceptually decomposable into elements representing snapshots of the progression of the event along the timeline and humans can direct their attention to specific elements comprising the whole event.

4.2.2 DEGREE OF VIEWPOINT EXTENSION: MAGNIFICATION AND REDUCTION

The extension degree of the speaker’s perspective makes the bounded vs. unbounded opposition much more relative and fuzzy than it might initially appear to be. The basic cognitive operation behind this notion is very similar to the experience of visual zoom, where a bounded object perceived at very close range virtually loses boundaries, as the angle of the field of view is insufficient to include the whole object. Alternatively, as a more distal perspective is acquired, what may look like an unbounded object can be perceived as having explicit boundaries. The two perceptual operations are identified by Talmy as perspective magnification and perspective reduction, accordingly (Talmy,
The difference in the perceived boundedness of an entity due to proximal or distal perspective is determined by humans’ biological ability to perceive only a limited range of field of view along, which along the horizontal plane of vision is estimated at about $95^\circ \sim 110^\circ$ (Werner and Rossi, 1991). Although the active field of view can be augmented by lateral head rotation, at any given moment humans perceive space roughly directly in front of them, which constitutes the foveal vision. Biologically intertwined with stereoscopic vision, this feature of the human visual field enables humans to achieve a high degree of focus on an entity, but limits the width of the peripheral vision and arguably prevents a holistic perception of an object, whose boundaries extend beyond the angle of the visual field. By sufficiently increasing the distance between an object and the observer the boundaries of an entity may be included into the scope of the visual field. For instance, a conceptualization of a river may be unbounded if the observer were in the immediate proximity of it as it would be impossible to visually perceive the source and the mouth of the river otherwise constituting its terminal points; these points are visually accessible, however, through perspective reduction, i.e. when observed from a much more distal perspective point—at a higher elevation or on a small scale map.

Recognizing the cognitive mechanisms of perspective magnification and reduction in the domain of time as homologous to the domain of space suggests that the same shifts of boundedness status are also characteristic of events. For instance, Talmy discusses how climbing a ladder can be perceived both as a bounded or an unbounded event depending on whether a distal or a proximal viewpoint is assumed by the speaker (Talmy, 2000, pp. 61–62). In the sentence, “He climbed the ladder in 5 minutes” we identify explicit temporal boundaries of the event which spans 5 minutes rendering the interpretation of the event as bounded (see Figure 11).
Figure 11: A distal viewpoint evoking a bounded conceptualization of an event; wave shading represents the field of conceptualization.

However, in the sentence “He kept climbing the ladder”, the boundaries of the event are beyond the field of conceptualization of the speaker and while we are aware that both the ladder and climbing a ladder have limits, these limits are irrelevant to the speaker’s construal rendering the event unbounded (see Figure 13).

Figure 12: A magnification of the viewpoint from distal to proximal; the boundaries of the bounded event traverse outside of the conceptual field view; wave shading represents the field of conceptualization.
Admittedly, the event of climbing a ladder has an implicit sense of telicity and an inherent endpoint associated with reaching the top of the ladder, so a distal perspective easily picks up on the temporal limits of the event rendering it bounded. However, an event does not have to have these inherent qualities to be able to denote a bounded construal. For instance, the activity of sleeping from a distal perspective has its terminal points, which is lexicalized in English in collocation like a nap or a good night’s sleep, whose nominal structure signals a holistic, bounded construal of an event.

Figure 13: A proximal viewpoint evoking an unbounded conceptualization of an event as a result of viewpoint magnification of a bounded event; wave shading represents the field of conceptualization

Crucially, the two conceptualizations have equal cognitive status in that neither of the viewpoints is to be considered as having precedence over the other even though events themselves may have a propensity towards being construed from either a distal or a proximal viewpoint. Therefore, the notion of boundedness is secondary to the notion of degree of viewpoint extension as its precise assessment for a particular event arises from whether the speaker assumes a distal or a proximal viewpoint. Talmy discusses this range of phenomena in terms of windowing of attention, which determines the boundaries of the “event frame” (Talmy, 2000, pp. 259–262); that is,
the identity of an event is constructed through the components of an event that are relevant to the construal and it is demarcated by conceptual boundaries overriding any terminal boundaries of an event as informed by the notion of boundedness. Temporal boundaries of an event may or may not be included into the event frame, which is the foundation of the aspectual distinction. This leads us to conclude that the perfective vs. imperfective distinction ultimately resides in the degree of viewpoint extension such that the boundedness of an event is relative to the degree of viewpoint extension. The perfective vs. imperfective opposition in (67) and (68) is then also attributable to the difference in the degree of viewpoint extension. The perfective event is to be viewed as a speaker’s conceptualization of the interaction between Sasha and an apple from a distal point, whereas the imperfective event presupposes a proximal viewpoint.

In this section I have identified the mechanism which is responsible for the flexibility of event construal allowing for an objective event to be conceptualized as either perfective or imperfective. However, the notions of boundedness and the degree of viewpoint extension do not predict the precise aspectual interpretation of perfective events that I have identified across (68), (69), and (70). Specifically, recognizing the fact that the events are bounded in (68), (69), and (70) only predicts that they have definite starting and ending points, yet the interpretation of the sentences has a clear bias towards highlighting the endpoint of the event, its termination. In other words, the construal of a perfective event picks out a very specific part of a bounded event: so in (68) while one is aware of the multiple stages involved in the activity that Sasha undertook to eat the apple, it is the last stage—the one, in fact, where the apple no longer exists—which describes the interaction between Sasha and the apple. The example in (67), on the contrary, evokes a construal which calls for no specific stage in the event of Sasha’s eating the apple, but it appears to pick one at random which is then construed as symptomatic of the whole event. I employ the notions of focus
element and perceptual scanning to explore why it is the last stage in a perfective event that bears particular significance to the conceptualization.

4.2.3 Focus distribution: scanning and focus element

The notions of scanning and focus element basically define a cognitive operation by which, first, one of two perceptual strategies is employed to segment an event as a whole into constituent snapshots, and then, second, a snapshot is picked out from the available set as bearing particular relevance for the construal of the whole event. As perfective events are processed through summary scanning the last snapshot is the most salient one while the rest are not accessible. Imperfective events on the other hand allow for any single snapshot to be mentally accessible and therefore representative of the whole event.

The notion of scanning addresses the mechanism of cognitive processing of complex events (Langacker, 1987). Namely, it pertains to whether or not all of the stages of an event are conceived simultaneously. Based on this distinction Langacker identifies sequential and summary scanning (Langacker, 1987, pp. 144–145). On the other hand, the focus element highlights a different facet of the distribution of focus. The focus element is a specific extension of the general attentional properties of human perception and processing. Tomlin (2000, p. 172) defines attention as a “set of related processes directed at reducing or constraining overall input to the cognizer”, whose effect “has been conceived as a limited-capacity resource which selects some component information from the general environment for further specialized processing... The facilitation of some information comes at the expense of, the inhibition of, competing information.” The focal element similarly restricts the magnitude of the information about an event available to a speaker, and defines the span of speaker’s attention in the construal of an event. It may be thought of as a concrete instantiation—or a
subset—of the degree of viewpoint extension. Specifically, for the conceptualization that is accessible given the distal or proximal perspective, it designates the part of the event that is particularly relevant to the speaker, i.e. is in focus.

Now let us elaborate on the nature of the two scanning strategies. Sequential scanning allows for specific stages to be discerned within the event by observing them in a sequence and recognizing the difference between contiguous stages, resulting in the perception of “successive transformations of one configuration to another” (Langacker, 1987, p. 248). What this scanning strategy entails is that “the component states are processed as series rather than in parallel, and though a coherent experience requires a certain amount of continuity from one state to the next, they are construed as neither coexistent nor simultaneously available” (ibid). Langacker claims that this is the kind of perception at play for imperfective events. Any of the stages of an event can be accessed one at a time and assessed in relation to other stages occupying the position either prior or following in the sequence.

An imperfective event can be represented as a relationship between the TR and the LM profiled along the temporal axis. In Figure 14 the TR is represented by a circle and the LM is represented by a square. The relationship between the TR and the LM at $t_n$ is accessed within the whole event; it’s position in the sequence is evaluated in relation to the difference in relationship between the TR and the LM in the preceding stage $t_{n-1}$ and the following stage $t_{n+1}$. One can think of this type of scanning as experiencing a motion picture, in which the objects are observed across several time frames, which leads to a vector-like conceptualization of change (Langacker, 1987, p. 104); the observer maintains the identity of these objects across the time frames so that the identity of TR in $t_{n-1}$, $t_n$ and $t_{n+1}$, for instance, is construed to be the same.
Figure 14: A diagram of an imperfective event with a non-specific distributed focus; the change in distance between the TR and LM across states $t_{n-3}$ through $t_{n+3}$ symbolically represents a process involving change; the snapshots of the process visible to the construal are represented in red.

However, there is more to sequential scanning than that. If we reconsider the representation of an imperfective event in Figure 14 as a diagram of sequential scanning, we’ll notice that the position of the TR in relation to the LM across the seven time frames in the diagram is not constant as I represent the TR gradually approaching the LM. However, this is not necessarily a feature of all imperfective events. In fact, we may identify certain types of events that are biased towards a construal which implies a dynamic relationship between the TR and the LM (e.g., “build a house”) while others tend to denote a rather static relationship between the two (e.g., “inhabit an island”). The dynamic vs. static distinction of imperfective events is still largely fuzzy and imperfective events may be said to overall have a bias toward inducing a static interpretation of an event, or—at least—make such interpretation accessible. The degree of viewpoint extension is at play here again. Particularly, the sense of change arises from comparing adjacent states in the progression of an event and recognizing the difference between them; however, the more proximal the viewpoint is—or the shorter
the interval of time is evaluated for change—the harder it is to perceive change across adjacent states.

Figure 15 demonstrates how a visual perception of a sinusoid transforms dramatically from the initial zoom level 1 through zoom level 7. As the window of attention picks out an increasingly shorter segment of the wave, by level 7 it appears to be virtually a straight line. With the number of increments at which the measurement of the vertical position of the wave is determined remaining constant for zoom levels 1 and 7, we observe change in vertical position at level 1 and no change at all at level 7. A very similar cognitive mechanism is at play in the construal of an imperfective event where depending on the scale of perceptual scanning “building a house” may as well be construed quite static. For instance, if it takes a year to construct a house then the progress would be virtually imperceptible at the scale of seconds. That is, while imperfective events already assume a proximal perspective viewpoint exactly how proximal it is is rather unspecified and depends on the construal of the speaker.

With this understanding of the perceptual operation we can identify the nature of the focus element in the construal of imperfective events. As an imperfective event is construed to be virtually limitless in time (or as far as a proximal perspective may lead one to believe so), the window of attention is set to one or few instances randomly picked from the series of instances constituting the event. The relationship between the TR and LM is construed as not reaching a closure as there is no implicit sense of finality to the event in imperfective construal. Going back to the diagram in Figure 14, the central time frame and two time frames on either side of it are highlighted as being in focus. A lighter hue of red symbolizes the fact there is no single specific time frame that is necessarily in focus; the numbering of the time frames being relative to the central time frame tn going in both directions is meant to symbolize the same idea.
Figure 15: Interaction between static vs. dynamic event construal and the degree of speaker’s viewpoint extension

In general then, for imperfective events any single time frame within the conceptualization of an event is accessible and therefore can be in focus. Crucially, imperfective events do not represent a committed change – even if some verbs have the tendency to profile telicity as I have shown above. The degree of zoom of speaker’s viewpoint is limited only on the upper end, that is, it cannot be reduced to the point where the boundaries of the event are conceptualizable which would otherwise prompt a perfective construal. On the other hand, nothing limits the magnification of the speaker’s viewpoint so that even a dynamic event can be conceptualized as static given the sufficiently proximal perspective point. At this level of scale the separate timeframes can be construed as virtually identical and therefore equally representative of the event as a whole.
Summary scanning involves an “additive” (Langacker, 1987, p. 248) conceptualization of an event where all the time frames are collapsed on top of one another and the event is construed as a gestalt. This way the change that characterizes the event is perceived simultaneously as a whole and stages within it cannot be picked out independently at random. Effectively, the notion of duration is largely faded and the event is construed as a temporally compressed entity. This is the scanning operation involved in perfective construal.

While Langacker compares the resulting conceptual image of summary scanning to a photographic image (Langacker, 1987, pp. 145, 248), I consider that it is better compared to a particular kind of photography technique such as a multiple exposure image of an object undergoing change. For example, in Figure 16 we can trace the position of the drumstick and the position of the drummer’s hand across multiple frames simultaneously. It is easy to point out that the image itself is visually perfective in that it has clear delineated boundaries (the starting point of the event with the drummer holding the drumstick at the farthest distance from the drum, and the endpoint when the drumstick bounces off the surface of the drum). Additionally, the final time frame is particularly prominent as the speed of the drumstick is much slower at this point and since the exposure time is constant throughout all of the shots the final shot is capable of capturing the whole stick with a better fidelity than at earlier stages. Because all of the frames can be accessed simultaneously the change in the position of the drumstick is particularly prominent.

While all of the time frames are overlaid indiscriminately, there is, however, a bias towards the last time frame in the overall conceptualization of the progression of the event over time as the last one in the sequence is also the most cognitively prominent.

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38Langacker does note that the processing result of summary scanning is “roughly analogous to a photograph made from multiple exposures” (Langacker, 1987, p. 248)
For the sake of clearer representation, first, if we were to unfurl the compressed conceptualization of a perfective event we would have a succession of time-frames of which the last one is in focus, as shown in Figure 17.

For perfective events, an action can be construed as involving some sort of change in the relationship between the TR and the LM, and it is the state of relationship at the end of the bounded segment that is in focus. In Figure 17 the TR is represented by a circle and the LM is represented by a square. The gradual approximation of the TR towards the LM across the four time frames symbolizes change, and the TR coming in contact with the LM across four time frames symbolizes the completion of the process of change, i.e. its termination. The last time frame—$t_4$—is in red, which signifies the fact that the speaker’s main focus is on the time frame where the process of change has completed. Figure 18 aims to represent the perfective conceptualization that I broke down in separate frames in Figure 17 as a single Gestalt. Here four separate snapshots of the TR in relation to the LM are overlaid symbolizing the “multiple exposure image” quality of the conceptualization akin to the image of the drummer.
Figure 17: A diagram of a perfective event with focus on the last stage in Figure fig:MultipleExposurePhoto. The final stage highlighted in red as the element in focus.

A perfective construal then—due to the underlying mechanism of summary scanning—limits the facet of an event that can be in speaker’s focus to the last temporal frame at which point the event terminates. Langacker notes that summary scanning does not preclude earlier stages in the event to be conceptualized albeit in a compressed format as a gestalt (Langacker, 1987, p. 248). The ensuing construal, even if perceived visually as in Figure 16 and Figure 18, emphasizes not only the change throughout the event but its terminal point as one that recapitulates the event as a whole and attributes a strong sense of completion and result. It is important to note here that our updated interpretation of perfective events still presupposes boundedness as this notion implicitly defines the time frames to be included in the conceptualization of an event as well as which time frame is terminal.

As my discussion of processing strategies underlying aspectral construal heavily relies on the notions of sequential and summary scanning it is important to observe
that some scholars have expressed doubts about the theoretic merit—and psychological reality—of the two scanning strategies. In particular, Broccias and Hollmann (2007) offer a competing analysis of English infinitival causative constructions and directional verbs vs. prepositions (e.g., *enter* vs. *into*) and claim that, otherwise, these phenomena “may not gain any obvious advantage from the inclusion of summary vs. sequential scanning as an additional dimension of variation” Broccias and Hollmann (2007, p. 510). While I agree that the scanning based account of these phenomena offered in, for instance, Langacker (1992) may have its limitations, these should not discourage application of the notion of scanning to other linguistic phenomena. I am convinced that my analysis of Russian aspectual construal has shown that the competing scanning strategies provide an important component of the conceptual configuration guiding the perfective vs. imperfective opposition. Conspiring with the notions of degree of extension and focal point, summary and sequential scanning articulate the fundamental difference in how the event texture is mentally represented; the proximal perspective facilitates a comparative scanning between different time frames in their interconnected succession, which motivates the imperfective construal. Likewise,
a distal perspective, which highlights the temporal boundaries of an event, conduces a compressed view of an event with the intent of picking out the quintessence of change with the resultant state in focus. Perhaps, aspectual phenomena are particularly well-suited for the application of scanning, as it appears to capture important insights into the motivation for the perfective/imperfective opposition. This view has been confirmed in a recent study by Zanned, 2011 on contemporary Arabic aspect, who shows that “all aspectual values” (p. 182) can be accounted for by the interaction between scanning strategies and magnification and the attention scope. It is clear that in determining the methodological value of the notion of scanning, further applications to a wider range of linguistic phenomena (and perhaps, especially, aspect) would be helpful, as well as experimental evidence confirming its neurophysiological status. However, at this stage of theoretical development in all invested fields, there is no converging evidence that would be sufficient to disqualify its application for linguistic analysis.

To conclude this subsection, I will review the proposed mechanism for aspectual construal as it involves sequential and summary scanning. The notions of sequential and summary scanning evoke our earlier discussion of the extension of speaker’s viewpoint albeit with a slightly different effect. The proximal viewpoint characteristic of imperfective events permits a more detailed articulation of the individual time frames constituting the event, whereas the distal viewpoint of perfective events induces a much more condensed conceptualization of the event where separate time frames are no longer individually accessible; they rather constitute an amalgamated unity directed towards the final time frame as the most recent on the scene\(^{39}\).

\(^{39}\)Also see discussion in (Langacker, 1987, p. 109) on the relationship between scanning strategies and focus of attention, which is consistent with my discussion of the attention frame as related but independent from scanning itself. In particular, it is only the final time
4.2.4 The general-factual meaning of the imperfective

Concluding my discussion of the aspectual meaning in Russian, I address the general-factual meaning associated with some uses of the imperfective aspect. My current analysis of the imperfective construal as instantiating the aspectual opposition in Russian focuses on accounting for what is frequently termed the “procedural” meaning of imperfective (Forsyth, 1970; Glovinskaja, 2001; Švedova et al., 1980). Being the most prototypical meaning of the imperfective aspect, it involves a construal of an event, where the event’s duration and lack of boundaries is highlighted. This is indeed the meaning I have been able to account for in my analysis in the previous sections by evoking the notion of summary scanning and the magnification of viewpoint extension as providing the necessary mechanisms for the opposition with the perfective construal. In particular, as the separate time frames of the event flow are available through the consecutive scanning in the imperfective construal, the notions of telic change and the outcome of a given process, if at all available, are de-emphasized in favor of the focus on the more static construal of an event as a stable state of affairs.

The use of imperfective aspect is not uniform and demonstrates a range of functions and meanings in a wide variety of contexts (Bondarko, 1971; Glovinskaja, 2001; Maslov, 1984; Rassudova, 1984; Anna Andreevna Zaliznyak and Šmelev, 1997; Zel’dovich, 2002). It is used to express, for instance, concrete events taking place at the moment of speaking, habitually recurring events, permanently unfolding processes, abilities, or unsuccessful attempts (see Bondarko, 1971, pp. 24–31 and Anna Andreevna Zaliznyak and Šmelev, 1997, pp. 18–25 for a detailed discussion of these meanings), all of which instantiate a construal of an unbounded event with a de-emphasized change I propose as motivating the semantics of imperfective aspect.
However, the general-imperfective use of the imperfective aspect does not—at least immediately—seem to be compatible with the unbounded construal of events, as it implies that an event is construed in its entirety—a feature I ascribe exclusively to the perfective aspect. While the primary focus of my analysis of the Russian aspect is the perfective construal, which provides the organizational context for BEGIN/END opposition in za-perfectives of motion verbs, my account of the perfective meaning relies on the contrast with the imperfective making a prediction that the perfective/imperfective aspects mirror the bounded/unbounded opposition of event construal. The general-factual meaning, by not following this opposition, therefore poses a problem for my analysis of the perfective/imperfective aspectual construal opposition. Dickey (2000, p. 105) specifically notes that due to its peculiarity in the aspectual system, the general-factual meaning “may be considered crucial in any analysis of aspect”. In this subsection I offer an analysis of the general-factual meaning, which shows that the notion of boundedness is not ruled out in the perfective/imperfective aspectual opposition if we consider the implications of proximity to the perceived salience of imperfective events.

The general-factual meaning associated with the imperfective aspect reflects a construal where an event is viewed as discrete with either specified starting and ending points or its repetition (Glovinskaja, 2001). I present a few examples with this meaning in (71)–(73).

(71) Саша сегодня варил суп.
Saš-a segodnja vari-l-∅ sup.
Sasha-NOM.SG today cook.IMPERF-PAST.MASC.SG soup-ACC.SG.
‘Sasha cooked soup today.’
(The inference is that the soup has been cooked.)

(72) Это письмо уже открывали.
Et-o pis’m-o uže otkry-va-l-i.
This-NEUT.NOM.SG letter-NOM.SG already open-IMPERF-PRES.3P.PL.
‘This letter has been opened.’
(The inference is that although the letter may appear sealed now, it looks like it had been opened previously.)

(73) Соня долго вникала в задачу.
Sonja-NOM.SG long discern.IMPERF-PAST-FEM.SG in задачу. zadač-u.
problem-ACC.SG.

‘Sonia took a long time getting the (math) problem.’
(Unlike the English gloss, the Russian original may be interpreted as either denoting the fact that Sonia got the problem in the end, or she didn’t after all the time it took. The ambiguity in the interpretation is then whether or not Sonia comprehended the problem. At the same time it is understood that the event of attempting to do so is complete.)

The examples in (71)–(73) may be considered as a challenge to my analysis as the three events—denoted by imperfective verbs in each case—are construed to have boundaries and are viewed as a whole. In particular, in (71) the event of cooking is understood to have been completed; in (72) the unsealing of the letter has taken place and is conceptualized as a discrete unit in relation to the speaker and his or her observation; in (73) the event of Sonia trying to discern the math problem, which took a long time, is understood to have ended. Under my current treatment the construals in these three sentences would be predicted to be denoted by perfective verbs.

I propose that by recognizing the notion of proximity as underlying the aspectual construal in these contexts we can account for the observed pattern of conceptualizations associated with the general-factual meaning and relate it to the spatially grounded treatment of aspectual meaning. In particular, it has been claimed that the set of contexts as represented in (71)–(73) are indeed particularly ambiguous towards aspectual choice. Anna Andreevna Zaliznyak and Šmelev (1997) identify these
as “aspectually competitive”\textsuperscript{40} for the concrete factual use of the perfective aspect and general factual use of the imperfective aspect, which are equally applicable here. However, the choice of the specific aspectual value relies on the difference of construals, which resides in how temporally remote and/or relevant the results brought about by the event are for the speaker (Zel’dovich, 2002, p. 100). In this way, the imperfective construal is contrastive with the perfective construal as the latter presupposes that the moment of speaking is somehow affected by the change associated with the perfective event—its “relevant consequences” in Anna Andreevna Zaliznyak and Šmelev’s terminology—whereas the former focuses on the “factuality of the event in and of itself”\textsuperscript{41} (Anna Andreevna Zaliznyak and Šmelev, 1997, p. 25). Therefore, the use of imperfective in the events represented in (71)–(73) is guided by and signals the construal where the events and their consequences are conceptualized as largely irrelevant by the speaker so that their relevance cannot be recognized or immediately tied to the moment of speaking. Consequently, the general-factual meaning can be understood as arising from pragmatic implicatures of how distal or proximal—in terms of relevance or time—the event is from the point of view of the speaker. That is, a scale of proximity can be viewed as informing both, the conceptualization of temporal distance between the events and the speaker, as well as providing a scale of affectedness of the speaker by an event. Both of these principles rely on the Time-Space conceptual metaphors reflecting common experiential correlations (Grady, 1999).

The notion of proximity has been utilized in the discussion of some of the functions of the English tense. For instance, Langacker identifies the English past tense

\textsuperscript{40}“Конкуренция видов” (Anna Andreevna Zaliznyak and Šmelev, 1997, p. 25)

\textsuperscript{41}“Между СВ и НСВ всегда имеется, однако, различие на уровне интерпретации, способа видения одного и того же события действительности, суть которого сводится к тому, что общеефактическое НСВ делает акцент на самом факте, а конкретно-фактическое СВ—на его релевантных последствиях.” (Anna Andreevna Zaliznyak and Šmelev, 1997, p. 25)
as prototypically referring to non-immediate reality, as opposed to the present tense which refers to the immediate reality. The notion of immediacy relates the speaker’s position in reality at the moment of speech to the event being reported giving rise to past or present tense construal (Langacker, 1991, pp. 244–249). Tyler and Vyvyan Evans (2001) advance Langacker’s analysis to accommodate for a number of uses of the past tense which do not straightforwardly follow from the temporal proximity of an event and the moment of speech. In particular, they argue that English tense morphemes may express event conceptualizations as reflecting the notions of intimacy, salience, attenuation, and actuality. The notion of attenuation, for instance, is responsible for a consistent use of past tense constructions when expressing a request in situations, where the speaker attempts to cause minimal threat to the negative face of the interlocutor (Brown and Levinson, 1987).

(74) I was wondering if you could help me with this.

Expressing a request by means of past tense marking (as demonstrated in (74)), the speaker symbolically evokes a distal position in relation to the interlocutor’s ego. Here the distance is symbolically interpreted as lack of control inferred from lack of spatial immediacy. By this token, the speaker softens the request as though consciously making it less impeding on the interlocutor’s independence in decision making whereby appealing to the interlocutor’s negative face. Overall, this strategy represents one of the major instantiations of politeness phenomena in the English language.

However, it is the notion of salience that bears the strongest connection to my discussion of the general-factual meaning in Russian. In Tyler and Evan’s account it ties together the construed distance in time between the speaker and the event with how relevant this particular event is to the speaker:
Due to the nature of our sense organs, particularly our eyes, that which is physically closer to us is more salient, that which is at a distance less salient. That which is closer tends to be that which is in foveal vision and more clearly observable, while that which is physically distant tends to be in peripheral vision and less clearly observable. That which is closer appears to be relatively larger, that which is distant appears to be relatively smaller. Entities which are located physically closer to humans, or events which take place physically closer are more likely to demand immediate attention than those which are physically distant. Thus, there is a tight correlation between the salience of an entity and how close it is to the experiencer (Tyler and Vyvyan Evans, 2001, p. 84).

This point is illustrated at discourse level patterns of use of tense markers, such as (75)–(76), where the event of publishing is far less salient and relevant to the speaker than the central idea of the book (Tyler and Vyvyan Evans, 2001, p. 84).

(75) In November 1859, Charles Darwin’s The Origin of Species, one of the greatest and most controversial works in the literature of science, was published in London.

(76) The central idea in this book is the principle of natural selection.

Returning to Russian, we can propose that the notions of distance and relevance play a similar—and at that—a defining role in the use of general-factual. For the notion of temporal distance, proximity is employed almost exclusively when reasoning about the relation of two events along the timeline, which reflects the general reliance of human cognition on the more readily available perceptual experiences to be employed as the vehicle for conceptualizing the notion of time (Vyv Evans, 2004). A strong spatial motivation can therefore be understood as underlying the general-factual use in instances where the event is construed as distant in the past. Similarly, the notion of proximity is closely associated with the notion of control, such that entities situated closer to each other also have a better chance of interacting and affecting each other
(Lakoff, 1987). Therefore, temporal proximity is expected to correlate with relevance to the speaker, as an event closer in time is understood to have more control over the speaker’s reaction – and therefore be more relevant – than a more distant event.

It is important to note here that the notion of proximity plays out a qualitatively different role than it does for the prototypical aspectual meaning in Russian. As I have shown in the previous sections, it is the distal perspective that corresponds to the perfective construal, and the proximal perspective that corresponds to the imperfective construal as both give rise to competing evaluations of the temporal texture of an event. My claim in regard to the general-imperfective meaning is that its remoteness does not license the same type of interaction between the observer and the event as we see in prototypical aspectual use. The remoteness transcends the distal perspective level of the perfective aspect putting the viewer off-stage and prevents the summary scanning and the focus on the last frame in the event. This mechanism induces not only temporal distance but also evaluative distance. That is, the general-imperfective reflects a construal with “no particular focus on the result of the event” (Grønn, 2008, p. 161), or a “qualitative temporal indefiniteness” (Dickey, 2000, p. 108), which is employed at levels governing discourse organization (Fielder, 1990) and in that is similar to the use of the English tense marking as an expression of various politeness strategies. Finally, Bondarko (1971) also points to the fact that in the general factual meaning the construal of the goal is “obliterated or weakened” due to the focus on the generic expression “of the fact in and of itself without any further specification of the way the event unfolds in time…or orientation of the event towards a goal”. In that sense, the general factual meaning “does not presuppose a result (even in the long term)” (Bondarko, 1971, p. 29).  

42Многочисленные глаголы общерезультативного способа действия, выступая в данном значении, также приближаются к эволютивным, так как результативность в этом случае устраняется или ослабляется. И это понятно: в данном типе
To sum up, the two components of the general-factual meaning—distance in time and lack of relevance to the speaker, intimately intertwined—are, therefore, accounted for by the distal perspective of the speaker on the results of an imperfective event, which is in contrast with the perspective construal. In perfective construal, the results brought about by a particular event are temporally closer to the reference time and are more relevant to the speaker. The general-factual use associates distances with lack of relevance to the speaker. By identifying the notion of proximity as underlying the motivations for the imperfective construal considered here, I am capable of bringing the analysis of general-factual meaning of the imperfective aspect to the spatial domain. Since my methodological claim is to show that the semantics of za-perfectives of motion verbs are largely grounded in spatial motivation, this is indeed the first and most important step in the reconciliation of the original analysis aimed at prototypical aspectual meanings and the account of the general-factual meaning.

4.3 Conclusion

The aspectual system of Russian rests on the ability of the speaker to use two competing cognitive strategies as he or she construes an event. The two strategies are so persistent, in fact, that events cannot be conceptualized outside of this dichotomy and the difference in the construal is grammaticalized in the aspectual marking on every verb in Russian.

In this section I have demonstrated how the notions of boundedness, extension of speaker’s viewpoint, focus element, and perceptual scanning interactively inform the функционирования форм прошедшего несовершенного внимание не сосредоточено на самом процессе действия, следовательно, не может акцентироваться и направленность действия на достижение результата. Обобщенное выражение факта самого по себе, без всякой дальнейшей конкретизации характера протекания действия в наибольшей степени согласуется именно с семантикой эволютивного способа действия, не предполагающего результата (даже в перспективе)...
conceptual difference between perfective and imperfective events in Russian. These notions show exactly how change and termination of change are crucial for understanding perfective events as opposed to imperfective events. In particular, perfective events are viewed as bounded due to the distal perspective of the speaker on the event arising from the field of conceptualization having scope over the whole event including its terminal points. Imperfective events on the other hand are construed as unbounded due to the fact that their temporal boundaries are beyond the scope of speaker’s viewpoint extension.

Furthermore, the internal structure of perfective events is compressed with the last timeframe bearing exceptional salience for the construal of the event encouraging a strong bias towards perceived change and its result as expressed in the terminal timeframe. This is indeed the construal at play in (68) where the event of eating is perceived with its terminal boundaries; it is temporally compressed highlighting the resultant state where the apple has been eaten.

In contrast, imperfective events are characterized by separately identifiable time frames without any specific frame having a higher degree of salience than another. Furthermore, the notion of change in imperfective events is a variable dependent on the level of magnification of the observer’s mental perspective such that the shorter the temporal increment the more static an imperfective event is construed. In (67) the sense of change involved in the state of the apple throughout the event is backgrounded to the point where it is irrelevant for the construal whether it was eaten or not.

This brings us to the conclusion that the perfective vs. imperfective distinction is insistently a matter of the speaker’s construal such that by adjusting the scope and mode of mental perspective it is possible to change the understanding of an event in terms of boundedness and identify certain time segments within an event as bearing conceptual significance. In other words, the mechanism responsible for the ability to
construe events as either perfective or imperfective and shift between the two different construals is grounded in the speaker’s perspective. In that sense assuming a perfective construal can be thought of as reducing the degree of speaker’s perspective, or conceptually zooming out, whereas assuming an imperfective construal can be thought of as magnifying the degree of speaker’s perspective, or conceptually zooming in. This understanding of the shift between the perfective and the imperfective construals follows a more general claim that the cognitive operations involved in the construal of temporal events are largely homologous to those applied in the conceptualization of spatial relations.

In the next chapter I will address Russian motion verbs and how their construal is informed by the notions of telicity, plexity, and degree of speaker’s perspective.
Chapter 5

Motion verbs

Linguistic expression of motion constitutes one of the core components of any aspectual system. Indeed, if the aspectual construal is profoundly grounded in spatial experience, patterns of behavior of motion verbs within an aspectual system can elucidate fundamental properties of aspect, as they may be representative of the most experientially direct and prototypical scenarios of aspectual use (cf. Janda, 2006). In this chapter I continue to utilize the methodological inventory developed by Talmy and Langacker to account for the notion of determinacy in Russian verbs of motion. I show that these verbs lexicalize various levels of construal, which is then further augmented by aspectual variation. More specifically, the interaction between determinacy and aspect is governed by focal adjustments of construal (cf. Langacker 1987), picking out four levels of conceptualization of motion events, which are formally expressed in Russian by the selection of determinate vs. indeterminate verb stem and the perfective vs. imperfective aspect.

5.1 Preliminary remarks

Motion verbs are one class of Russian verbs that demonstrates a unique construal commitment that is even more specific than—while as persistent as—the perfective vs. imperfective dichotomy. Whereas motion verbs do maintain the opposition of perfective vs. imperfective construal, the imperfective events are represented by a
Table 2: Interaction between determinacy and aspect

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Imperfective</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>za-</td>
<td>END</td>
<td>BEGIN</td>
</tr>
<tr>
<td>Determinate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indeterminate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

more specific binary opposition of determinate and indeterminate verbal stems. The importance of this peculiarity to my analysis is outstanding because the distribution of the BEGIN/END meanings in za-perfectives of motion verbs aligns with the binary opposition we find in corresponding imperfective forms (see Table 2 on p. 133). That is, za-perfectives that denote ‘start motion’ are derived from indeterminate stems, and za-perfectives that denote ‘end motion by reaching destination’ are derived from determinate stems. Therefore, in order to account for the meaning pattern we observe in motion za-perfectives apart from contributions of aspect and the prefix za- we need to consider the nature of the construal that is the conceptual foundation of the determinate vs. indeterminate distinction. This distinction needs to be evaluated in the context outside of the prefix za- and the perfectivity associated with it, which structures my analysis of the Russian motion verbs.

First, I show that the determinacy distinction is an instantiation of imperfective construal which can be compared to the traditional notion of lexical aspect. I then demonstrate how the scenes profiled by the two types of motion interact with the notion of telicity. Next, I argue that verbs of motion lexicalize the construal which arises from the perceived plexity of a temporal event as it is construed either from a distal or proximal perspective. Finally, I address how the notion of determinacy interacts with perfective and imperfective aspect.
Before I proceed with my discussion, I would like to make a note on the terminology I adapt. In my discussion of the morphological derivatives of motion verbs I will refer to verbs derived from the two classes of stems by the terms used to denote the unprefixed class, e.g. “za-determinates” and “za-indeterminates”. The terms “determinate” and “indeterminate” in these instances do not capture the semantics of the derived verbs, and their use will alleviate the task of selecting a term to refer to the prefixed classes, while maintaining the reference to the determinate or indeterminate nature of the original stems. The latter aspect is particularly important as the determinacy of the stem substantially contributes to the start/end semantic pattern.

5.2 Determinacy as a representation of lexical aspect

The Russian verbs of motion are represented by two groups. One group of imperfective stems denotes a motion event consisting of one trip with a single destination. The spatial and temporal boundaries of this group of events coincide in the sense that at the point where the agent reaches the destination the motion terminates as well. The implication of this understanding is that such events have a certain bias towards representing a motion event as telic. In the imperfective construal the destination nevertheless is backgrounded so that the event has a strong sense of progressivity and continuity, while its telic quality fades out. In (77) the event of walking is construed as happening within a very short window of attention, as if only accurate instantaneously at the moment of speech; while the destination is explicitly mentioned (school), the focus is on the act of walking. Traditionally, this class has been termed determinate motion verbs.
The other group denotes a motion event consisting of an unidentifiable number of trips with a single, multiple, unknown destinations, or simply the ability to perform the identified type of gait. Unlike the determinate verbs, here reaching the destination does not entail termination of the motions and the event is construed as largely atelic. For instance in (78) Sasha’s walking to school is perceived as recurring on an everyday or other regular basis. An emergent interpretation of this construal is that Sasha is understood to walk to school, as opposed to, for instance, drive or take public transportation. Traditionally, this class has been termed indeterminate motion verbs.

With the rest of the context in sentences (77) and (78) being identical, the formal difference between the two sentences resides in the difference between what I have glossed as stems \textit{walk}$_3$ and \textit{walk}$_1$. In other words, the two stems are solely responsible for the construal variation evoked across these two examples. This construal variation is noticeably aspectual in nature, as it represents two different ways of conceptualizing a motion event; however, the term “aspectual” here does not refer to the perfective vs. imperfective distinction as discussed above, but rather to specific instantiations of the imperfective construal. In that sense, while the perfective vs. imperfective distinction is a manifestation of grammatical aspect, the distinction between determinate and indeterminate verbs is to be understood as a manifestation of lexical aspect, as represented in Figure 19.
The peculiar pattern of meaning distribution across the two different stems denoting walking as in (77) and (78) above, is observed in a limited number of other verbs of motion in Russian prompting a similar interpretation of the dichotomy between the determinate (or progressive for a single event) construal in (79) and (81) and indeterminate (or recurring) construal in (80) and (82).

(79) Саша бежит в школу.
    Saš-a bež-it v škol-u.
    Sasha-NOM.SG run₀-PRES.3rd.SG. in school-ACC.SG.
    ‘Sasha is running to school.’

(80) Саша бегает в школу.
    Saš-a bega-et v škol-u.
    Sasha-NOM.SG run₁-PRES.3rd.SG. in school-ACC.SG.
    ‘Sasha runs to school.’

(81) Саша едет в школу.
    Saš-a jed-et v škol-u.
    Sasha-NOM.SG drive₀-PRES.3rd.SG. in school-ACC.SG.
    ‘Sasha is driving to school.’

Figure 19: Aspectual hierarchy in Russian verbs of motion. Lexical aspect instantiates grammatical aspect and grammatical aspect instantiates the ubiquitous category of aspect. Imperfective aspect is represented by the determinate and indeterminate motion verbs.
<table>
<thead>
<tr>
<th>Determinate</th>
<th>Indeterminate</th>
<th>English gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>бежать</td>
<td>бегать</td>
<td>'run'</td>
</tr>
<tr>
<td>брести</td>
<td>бродить</td>
<td>'roam, stroll; ford'</td>
</tr>
<tr>
<td>ехать</td>
<td>ездить</td>
<td>'move by means of conveyance; drive'</td>
</tr>
<tr>
<td>идти</td>
<td>ходить</td>
<td>'walk; go'</td>
</tr>
<tr>
<td>лезть</td>
<td>лазить</td>
<td>'climb'</td>
</tr>
<tr>
<td>лететь</td>
<td>летать</td>
<td>'fly'</td>
</tr>
<tr>
<td>плыть</td>
<td>плавать</td>
<td>'swim, sail'</td>
</tr>
<tr>
<td>ползти</td>
<td>ползать</td>
<td>'crawl'</td>
</tr>
</tbody>
</table>

Table 3: Russian verbs of motion

(82) Саша ездит в школу.
Saša-NOM.SG drive₁-PRES.3rd.SG. in school-ACC.SG.

'Sasha drives to school.'

Essentially, with this alternating aspectual pattern remaining constant, the determinate/indeterminate stem dyads in (77) through (82) differ in the three modes (or manners) of motion profiled for Sasha, walking ((77) and (78)), running ((79) and (80)), and driving ((81) and (82)). For all three modes of movement, the stems glossed with D (e.g., driveD) identify a construal where Sasha is engaged in a progressive motion towards a specific destination ((77), (79), (81)). The stems glossed with I (e.g., drive₁) on the other hand denote a motion which involves repeated trips to the destination ((78), (80), (82)). This pattern is observed for an overall of eight pairs of motion verbs in Russian, as represented in Table 3.

43 There is a class of transitive motion verbs with similar semantic and paradigmatic properties, e.g., nosit’₁ and nestiD ‘carry’, vozit’₁ and vestiD ‘drive, take (someone somewhere)’, vodit’₁ and vestiD ‘lead, guide’. Due to their transitivity, they represent a separate subgroup of motion verbs, and are not treated in this analysis.

44 More precisely, transporting oneself by means of operating a vehicle, bicycle, or horse, or being transported by any of these means as a passenger. Throughout the rest of the discussion I will use the English ‘drive’ as the closest shorthand.
The semantic distinction driving the determinate vs. indeterminate opposition is not necessarily unique to Russian. A similar kind of construal distinction can be observed for the English simple and progressive tenses. One of the functions of the progressive tenses is to highlight the ongoing character of the action as in (83). Similarly, the simple tenses can denote a habitual action (84). These different aspectual uses are exemplified in (85) and (86) for the English walk.

(83) He is drinking coffee.
(84) He drinks coffee.
(85) He is walking to school.
(86) He walks to school.

In fact, the latter two examples can be directly correlated with the Russian determinate idti₅ ‘walk’ (compare the Russian use of idti₅ in (77) and the English is walking in (85)) and indeterminate xodit’₁ ‘walk’ (compare the Russian use of xodit’₁ in (78) and the English walks in (86)). However, there is a substantial difference between the determinacy opposition in the two languages. Whereas the determinacy opposition in English is marked grammatically, it has been lexicalized

45 There is a variation in the form of the verb лазить lazit’ and лазать lazat’ ‘climb’; the two forms are generally considered synonymous as deriving from the same Proto-Slavic verb Vasmer, 1950, with the former being the widely acceptable variant (note that due to phonetic reduction patterns in some Russian dialects, the two words may sound very similar, if not identical, for instance, in the classical Moscow dialect). However, there is some evidence that the two have a slightly different distribution in terms of collocation preferences and slang use in various dialects (Belikov, 2006). Without further confirmed evidence, I will assume lazit’ as the representational form of this verb.

46 Note that I am concerned only with the habitual meaning of the indeterminate stem here as the most salient interpretation given the context of both (78) and (86).
in Russian verbs of motion so that for certain types of motion—such as walking, running, flying, swimming—Russian has two verbal stems maintaining consistent differentiation between determinate walking (идти, walk\textsubscript{D}) vis-à-vis indeterminate walking (ходить, walk\textsubscript{I}), determinate running (бежать, run\textsubscript{D}) vis-à-vis indeterminate running (бегать, run\textsubscript{I}), and so on. Determinacy is therefore best understood as a category of lexical aspect in Russian.

Given the consistent patterning of construal across motion verbs based on the notion of determinacy and the fact that this distinction is expressed lexically, we can conclude that while the perfective vs. imperfective distinction is a manifestation of grammatical aspect, the distinction between determinate and indeterminate verbs is a manifestation of lexical aspect as represented in Figure 19 on p. 136.

There are a number of phenomena in contemporary Russian as well as diachronic evidence that support the view that the binary pairing of Russian motion verbs for the sixteen stems is not incidental and has an aspectual origin. First, there are other Russian verbs (e.g., двигаться двигаться ‘move’, шагать шагать ‘stride’, парить парить ‘soar’) that denote various modes of motion but do not distinguish between the determinate and the indeterminate stems. In this respect the semantic patterns of these verbs are similar to other Russian verbs with the general perfective vs. imperfective opposition. The motion verbs that do maintain the determinate vs. indeterminate opposition in addition to grammatical aspect retain this quality from Old Russian, Common Slavic, and Proto Indo-European where vowel mutation and suffixation were employed to show aspectual opposition based on the notion of duration prior to the development of the contemporary grammatical aspect (Borkovskij and P. S. Kuznecov, 1963; Borodič, 1953). In fact, Regnell (1944); Wijk (1929) propose that the contemporary aspect in Slavic has its origins in the Indo-European stems, where determinate and indeterminate actions were distinguished through vowel mutation.
and suppletion, which also invites Kagan’s proposed parallelism between members of the determinate/indeterminate and the perfective/imperfective pairs (Kagan, 2010, p. 157). Synchronically, the particular means of aspectual opposition for the class of motion verbs are unproductive and therefore the stems within a determinacy pair are considered independent (M. A. Sokolova, 1962; Švedova et al., 1980). The significance of this diachronic fact has been evaluated in more detail elsewhere (Borkovskij and P. S. Kuznecov, 1963; Gorškova and Haburgaev, 1981; Ivanov, 1990; Nichols, 2010) and is beyond the scope of this work. However, it is important to recognize that the interaction between determinacy and aspect in contemporary Russian is a layered system where the old aspectual system represented by determinacy in motion verbs (now perceived as an unproductive lexicalization) is engaged in the more modern and productive aspectual paradigm formally expressed in the opposition between perfective and imperfective construals. It is from this understanding of the genesis of the contemporary category of determinacy that the four-way system of meanings characteristic of motion verbs should approached.

But what is the conceptual foundation for the notion of determinacy in contemporary Russian? Since determinate and indeterminate verbs are grammatically imperfective, the notions I employed to differentiate perfective and imperfective construal are too general for the more fine-grained determined vs. indeterminate opposition—at least in the form that they have been presented thus far. At the same time, the common origins of the determinacy and contemporary Russian aspect suggest that the mechanisms of construal may share important characteristics and cognitive motivations.

In order to address the conceptual underpinning of determinacy, I propose that first, it is necessary to recognize the general contribution of the imperfective construal to the interpretation of both determinate and indeterminate verbs. While there is a
difference between the two types of motion verbs, they also demonstrate a series of common imperfective qualities. As I have shown in the previous chapter, imperfective construal is based on a proximal viewer perspective so that the temporal boundaries of an event are beyond the conceptualization scope of the speaker and any time segment within the event can be picked out as abstractly representative of the whole event. This point is critical for our understanding of imperfective determinates as these motion verbs profile a construal incorporating one trip with a single destination. As I have pointed out in relation to the example (77) on p. 134, the destination is backgrounded: even though we are aware of the fact that Sasha is walking to school, the primary focus is directed at the ambulation involved such that Sasha is understood to be on the way to school. This particular conceptualization has a clear origin in the imperfective construal as it assumes a proximal perspective point and leaves out the temporal boundaries of an event. In other words, the destination of determinate motion, while accessible, is noticeably backgrounded as a result of the imperfective construal. Indeterminate verbs on the other hand do not involve clearly delineated spatial or temporal boundaries and the imperfective construal does not alter the conceptualization of indeterminate motion as strongly as it does determinate motion. The imperfective indeterminate motion then highlights the temporal and spatial expanse of this motion unlimited by temporal boundaries, which is interpreted as aimless, or habitually occurring, or the ability to move in a particular gait, or extended as the round-trip meaning. All these possible interpretations can be viewed, in fact, as representations a polysemy network of the imperfective indeterminate verbs of motion.

In order to fully account for the contribution of imperfective construal—or aspe-ctually ascribed construal in general—for the determinacy-based opposition, we need to have a better understanding of precisely what the opposition is conceptually grounded
5.3 Determinacy and inherent telicity

The notion of telicity is relevant here to distinguish between the two types of conceptualization (determinate and indeterminate), particularly since the imperfective construal alone cannot tease out fundamental differences between determinate and indeterminate motion. The notion of telicity identifies whether or not an event is conceived of as having an inherent or intended endpoint (Hout, Swart, and Verkuyl, 2005). Determinate motion highlights the destination as an important element of the scene rendering the semantics of determinate verbs as biased towards being telic. For an analysis that explores the motivations for construing the motion as either starting or ending, it is important to articulate why out of the two terminal points in the path of the mover—the starting point and the endpoint—only the endpoint reserves such salience for determinate verbs. Furthermore, I will show that telicity is the category motivating the determinacy opposition of the Russian motion verbs since determinate motion verbs express a telic construal of a motion events, whereas indeterminate motion verbs express an atelic construal of a motion event. This is particularly important for understanding the semantics of the indeterminate motion verbs, as they exhibit significant polysemy in how atelic motion is construed. While it is only possible to resolve whether an indeterminate motion verb expresses aimless motion, habitual motion, round-trip, or the ability to perform a specific type of motion by attending to the sentential context, I argue that the atelic construal ultimately motivates all of these meanings. In this section I first discuss the goal-bias of determinate motion verbs within the general SOURCE-PATH-GOAL schema of motion, and then articulate
how the polysemy of indeterminate motion verbs is accounted by their underlyingly atelic semantics.

The notion of telicity and its relationship to prefixation in Russian has been widely discussed (Comrie, 1976; Filip, 1999, 2003, 2008; Forsyth, 1970; Gehrke, 2008; Markovskaya, 2007; Tenny, 1994), with the prevalent conclusion that prefixes most generally convert atelic predicates into telic ones. My understanding of telicity here is qualitatively different: instead of associating telicity directly with aspect, I am interested in its representation as a conceptualizing bias of some motion events. In particular, I propose that determinate verbs of motion have a stronger tendency towards being compatible with a goal-oriented, telic construal of an event, which on the one hand distinguishes them from indeterminate verbs, whose semantics are atelic, but also motivates the privileged status of goal within the general source-path-goal schema of motion events. The latter schema has been proposed by Johnson to underlie the basic human experience with motion events (Johnson, 1987). I posit that the bias toward expressing the goal in determinate motion verbs has to do with the general understanding of motion as directed—spatially and temporally—towards a destination in the context of the mover voluntarily undertaking the motion. Indeed, it appears rather odd to identify motion events solely by their source. We can observe this generalization as reflected in language. For instance, ellipsis of the phrase identifying the destination is much more marked than ellipsis of the source or path or manner even if we assume that the destination is resolved in context:

(87) I went to school_{DESTINATION}.

(88) I went to school_{DESTINATION} from home_{SOURCE} by foot_{MANNER} through the field_{PATH}.

(89) ?I went from home_{SOURCE}.
Admittedly, this construal is available as we employ spatial particles devoted to identifying the source of motion (e.g., ‘from home’; ‘out of the room’). However, explicitly identifying the source or path appears to be more marked conceptually, particularly, if we think of the source and the path on the other hand and the destination on the other hand in terms of Figure and Ground. This pattern seems to be arising from persistent general human experience with volitional motion. That is, in the event of planning a particular motion, the starting point as well as the path towards the destination represents the more immediately available, present location or setting at the start of the event or throughout, whereas the destination is the location in volitional focus and necessarily anchored in relation to the starting point as the mover determines his path in order to reach the destination. In this sense then, the segment prior to destination has a strong tendency to be conceptualized as the Ground, and the endpoint is biased towards Figure-like properties. This is, indeed, the view expressed by Talmy, as he discusses the cognitive basis of the telicity bias, which finds its way throughout cognition and is thereby is expected to have a reflex in language structure.

\[\text{\ldots [There is a]}\text{ selective advantage in the evolution of a cognitive system of intentional constancy—which maintains certain abstract schemas of intention and its realization—beside a cognitive system of executional plasticity. In the same way that cognitive linguistics has proposed other close correspondences between linguistic structure and the structure of}\]

\[47\text{The somewhat marked reading comes from mainlining the PATH interpretation of ‘through the field’, not a goal-related interpretation.}\]
nonlinguistic cognitive systems, the thesis proposed here is, specifically, that the portion of an agentive causal chain characteristically windowed in linguistic structure corresponds to the cognitive system of intentional + realizational constancy, while the characteristically gapped material corresponds to the cognitive system of executorial plasticity...

The constancy here is the goal of achieving a correspondence between an intention to effectuate some particular circumstance and seeing to it that circumstance in fact becomes realized through whatever activities prove necessary. Where cognitive organization must remain plastic is in the determination and marshaling of such necessary activities, since the conditions attendant on realizing some purpose can vary greatly. (Talmy, 2000, p. 279, 277)

In effect, Talmy proposes “elasticity” in cognitive representation leading up to the goal due to the fact that it must be able to accommodate for the changes in “physical and functional constitution of an individual organism” and “an organism’s surroundings, both physical and social” (Talmy, 2000, p. 277), which is reflected in inconsistent and/or optional linguistic representation; at the same time the goal remains the focus of attention as beneficial for the cognitive system’s ability to carry out intentions, and finds a much more consistent expression in language. This generalization finds support in linguistic patterns of Slavic languages. For instance, the “privileged role played by the final boundary of eventualities in the event structure” has been observed in Filip (2003, p. 95) as well as Shull (2003, pp. 56–60). Markovskaya (2007) also identifies a persistent pattern in goal-bias for Russian motion events, as she shows that even Source-prefixes allow for Goal PPs, while Goal-prefixes are less accepting Source PPs. Likewise, in her corpus study of Russian literary texts, Ferm (1990, pp. 55–56) con-
cludes that that goal is expressed much more consistently and explicitly than source even with verbs denoting the source of motion, since “the beginning point [of motion] requires specification to a lesser extent in the communicative act, while the final point is main and dominant in the expression of relations of space and directionality. At the same time, the final point is a new, less known, or altogether unknown element. This is why it occurs in... constructions with all types of prefixed verb of motion...”48

To be clear, this goal-bias only presupposes the more prototypical construal of a motion event, and if necessary, the roles can be reversed. Particularly, by substituting ‘went’ with ‘came’ the sentence in (89) can be made acceptable; this verb, however, introduces an explicit speaker oriented perspective in the conceptualization of a motion event where the verb stem profiles the direction along the path rather than the mode of motion, what Slobin identifies as a verb framed conceptualization (Slobin, 2004). I claim that this conceptualization—while accessible to Russian speakers—is fundamentally different from what Russian motion verbs profile as a class, since the semantics of these verbs are primarily concerned with the mode of motion such as walking, running, flying, swimming, crawling, etc. (see Table 3) In fact, Dickey (2010) shows that the motion verbs as a class originated from the indeterminate stems whose semantics highlighted exclusively the manner of motion (Nichols, 2010). To invoke Slobin’s classification once again, Russian motion verbs are satellite framed such that the stem itself reveals no information about where the speaker is in relation to the path of motion, its starting point or destination in the way that English ‘enter’, ‘come’, and

48Это объясняется тем, что начальная точка в меньшей степени нуждается в уточнении при акте коммуникации, в то время как конечная точка является главной, доминантной в выражении пространственно-направительных отношений. Одновременно с этим конечная точка является новым, менее известным или совсем неизвестным элементом. Поэтому она и фигурирует в виде предложно-падежной конструкции направления при всех видах приставочных глаголов перемещения: аблативных, аблативно-аллативных и перлативных.
'leave' do. Instead, the event of motion is merely construed as either having an inherent endpoint or not. While very specific about the mode of motion, the spatial arrangements in Russian motion verbs then are viewed at a much more abstract level than the schematic spatial arrangement incorporated in verb framed semantics, where the starting point, path, destination, and speaker’s location play a crucial role. There is a sense of the general notion of destination or conclusion of an event at which point the motion terminates in both the spatial and the temporal domain. Russian motion verbs are then viewed as either having this notion of destination intrinsically encoded in the semantics of the stem or not: determinate motion verbs do, and indeterminate motion verbs do not.

In this respect it is important to recognize that the atelic nature of indeterminate motion lends itself to a series of extensions and conventionalized entrenchment of various affordances that can be derived from the central notion of atelicity. In a sense, indeterminate verbs exhibit a far greater flexibility in the range of meanings than do determinate motion verbs. In particular, the semantics of the indeterminate stems in the imperfective construal have been described to pattern along four specific meanings (Foote, 1967; Forsyth, 1963):

1. ability to move
2. habitual motion
3. aimless motion
4. round-trip motion

In my treatment of za-indeterminates I generally describe the mechanism underlying the opposition between the imperfective and the perfective construals for
the class of indeterminate verbs as a whole and do not address how these more specific meanings may be interacting with the perfective construal introduced by za-. I believe such treatment is justified as the four meanings can, in fact, be grouped together on the basis of the central meaning associated with the class as a whole, and, therefore, meaning-specific mechanisms of the interaction with the semantics of za- and aspect are unnecessary. In particular, Dickey suggests that the opposition of the determinate and indeterminate motion verbs relies on the presence or absence of “a single goal-oriented trajectory” in the construal of the motion (Dickey, 2010, p. 68). The determinate verbs are characterized as having a single goal-oriented trajectory in their construal of a motion event. On the other hand, the indeterminate class is characterized as lacking this notion in the general conceptualization they encode. In that sense, indeterminate motion verbs evoke a strong sense of atelicity.

The four extended meanings associated with the indeterminate class then can be motivated as conventionalized inferences stemming from the lack of a single goal-oriented trajectory, which emphasizes their atelic quality. More specifically, the first three meanings—the ability to move, habitual motion, and aimless motion—all provide the construal of a motion as an atelic activity. That is, while the ability to move can be defined as evoking an attribute or a qualification of the mover, the motion for the other two meaning is understood to involve a set of infinitely or indefinitely recurring components without any explicit sense of closure. The absence of closure is the key element in recognizing the atelic nature of aimless and habitual motion. At the same time, the recurring components themselves do differ across the habitual and the aimless motion types proving to motivate a meaningful distinction of the conceptualization between the two types of atelic motion.

For aimless motion, the recurring components are the trajectories perceived by the observer as constituting somewhat independent elements in the total act of aim-
less walking. Perhaps, these components are best correlated with following a simplex trajectory—such as a straight or linear vector—since aimless walking can be prototypically described as randomly but subsequently altering the direction of the mover’s course. The segments of motion taking place between the significant, or relevant to the observer changes in the trajectory would be recognized as the minimal units of aimless motion, providing the basis for discerning constituents of aimless motion. These segments are also understood to repeat infinitely or indefinitely, and as a sum are conceptualized as an aimless motion activity.

For habitual motion, the constituent components are defined by the specific trajectory that is performed regularly over time. In that sense, the habitually recurring discrete trips to and from the destination provide the constituent components of habitual motion. These components are much more specific than those comprising aimless motion. However, they are similarly perceived as a set of repeated motion events, where the repetition is infinite or indefinite, and, therefore, lacks any explicit sense of closure. In that way, habitual motion—just like the ability to move, and aimless motion—is understood as an atelic activity.

Finally, since the verbs in this class distinguish from each other on the basis of the types of motion encoded—e.g., walking, running, swimming, crawling, etc.—all three meanings can be said to highlight the mode of motion more than its specific spatial attributes related to sources and goals. This quality of indeterminate verbs has been traced back to the origins of the class of motion verbs as whole in Common Slavic, where it was employed to denote strictly the manner of motion (Dickey, 2010). Therefore, the ability to move, aimless motion, and habitual motion can be grouped together as denoting an atelic motion activity. This activity is in sharp contrast with the determinate motion, where telicity comes into foreground, as the event is
understood to have a single clear goal of the trajectory, and, therefore, a spatial and temporal closure.

The fourth meaning—ROUND-TRIP—is not as immediately derivable from the common atelic element in the semantics of the indeterminate motion verbs. It is exemplified in (92).

(92) Соня ходила в кино.
Soni-a xodi-l-a v kino.
Sonia-NOM.SG go1.IMPERF-PAST-FEM.SG in cinema-ACC.SG.
‘Sonia went to the movies’. (Here Sonia is understood not only to have traveled to the movie theater, but also back, resulting in the “round-trip” interpretation.)

I claim that the semantics of ROUND-TRIP are determined by the interaction of atelicity and the general human experience with a specific set of motion events. In particular, the majority of motion events performed by humans involve the idea of a base location and a goal of motion. The base location serves as the anchor for a range of motions taken along various trajectories in order to reach a variety of destinations. For instance, while motion events involving going to work, to the gym, grocery shopping, to a doctor’s appointment, or to see a movie all have different goal locations, they reflect—prototypically—one’s home as the spatial anchor for all of these motion events to be planned in relation to and take place.

In that sense, the relationship between the source and the goals of this kind of motion can be represented by employing the Figure-Ground framework (Langacker, 1987; Talmey, 2000). In particular, “home” serves as the Ground in the conceptualization of the motion events; it is the more familiar location, more recently as well as permanently in the awareness of the speaker. On the other hand, the goal locations of the motion events are very Figure-like in that they represent the newer, less familiar,
and less permanent, but more salient elements. An important corollary of this difference in construal of source and goal destination is that the low permanence of Figures in the construal of a motion event necessitates the following: when the mover is not at the Figure, his or her location—unless specified—is assumed to be its default location, which is the Ground, or base location. In other words, humans are very accustomed to the idea that going to some place away from the base location is temporary, and the trip back is made eventually. That is why the return part of the trip does not need to be explicitly articulated as it is frequently inferred by the fact that the mover is no longer at the location of the Figure (cf. Zel’dovich 2002, pp. 138–139). Kagan (2010, p. 160), too, highlights a pragmatic entrenchment that appears to be at play here: “A VP that originally denotes an event of motion conventionally comes to be used to encode the whole trip, of which this event of motion constitutes the first stage. It is possible that we deal with coercion.” Furthermore, note that the ROUND-TRIP construal of motion events is far from endemic to Russian motion verbs. For instance, this construal is clearly interpretable from the English gloss in (92) which attests to the pervasiveness of the “round-trip” construal.

Finally, given the salience of both goal and source destinations to the construal, the ROUND-TRIP meaning encompasses more than just a trajectory oriented toward a single specific goal and, thus, cannot be considered telic. Particularly, apart from the destination (e.g., movie theater), the trip back to the base (e.g., home) constitutes an entrenched conceptualization of a motion event. Therefore, with two destinations—first, the Figure, or the goal destination, and, second, the Ground, or the base—ROUND-TRIP is incompatible with the single goal of the determinate motion and the notion of telicity associated with it. This compels me to conclude that the “round-trip” meaning is necessarily atelic, and in that it takes after atelicity as the central meaning underlying the polysemy of indeterminate motion in general.
The notion of telicity is indeed a complex matter and an elaborate, devoted investigation is necessary in order to fully explore its interaction with perfectivity and various types of motion verbs in Russian, which is beyond the scope and goals of the present work. To conclude the discussion of telicity here I would like to stress the fact that a physical destination can be specified for either class of verbs, as is the case in (93) and (94), where Sasha’s concrete physical destination is school.

(93) Саша идёт в школу.
Saš-a id-¨ et v škol-u.
‘Sasha is walking to school.’

(94) Саша ходит в школу.
Saš-a xod-it v škol-u.
‘Sasha walks to school. Sasha goes to school.

However, destination in terms of telicity necessarily suggests the finality of a motion event when it is reached. In that sense, the determinate construal in (93) would have Sasha cease to walk once he arrives at school, whereas the indeterminate construal in (94) does not presuppose that, instead focusing on repetitive motion of habitually reaching the physical destination, or walking as the selected by Sasha manner of motion. These two interpretations indeed correspond to the motivations for the habitual and the ability-to-move interpretations of indeterminate events.

In this subsection I have demonstrated a unified account of the goal-bias of determinate motion verbs and the polysemy of indeterminate motion verbs. For the determinate motion verb class, the goal component has a high salience as a result of the cognitive mechanisms underlying human experience of volitional activity. The goal of an event is highly salient as the structuring component for planning and implementing a series of specific actions necessary to reach the goal, while the source
and the path are backgrounder in order to allow the cognitive system’s flexibility so as to adequately adapt to and cope with the uncertainty or the instability of the environment. For the indeterminate motion verbs, all four meanings are grounded in the notion of atelicity as a pervasive component in the conceptualization of indeterminate motion events. The ability to move is a qualification of a mover and is hence atelic. Aimless motion and habitual motion can be described as atelic activities consisting of a set of infinite or unidentified recurrences of motion segments. The ROUND-TRIP meaning necessarily involves two spatial destinations—as arising from a conventionalized schema of a specific class of motion events—and is, therefore, atelic.

As I motivate the telicity-based distinction between determinate and indeterminate motion verbs, it becomes clear that telicity necessarily resides in the construal, and is, therefore, a function of the selected perspective strategy. Thus far I have not addressed the mechanism that enables the speaker to view a motion event as either determinate or indeterminate or switch between the two ways of construing a motion event. We have seen that, as far as grammatical aspect is concerned, it is the shift in the speaker’s construal—vantage point and scanning operation, in particular,—that is responsible for the alternating perfective and imperfective conceptualizations. In this section I have tackled the notion of telicity as qualitatively differentiating determinate and indeterminate construals of motion events. But this notion does not provide insight into how a single motion event can be construed as either determinate or indeterminate. For instance, what compels the speaker observing Sasha’s walking to school to identify it as either a part of a single trip (determinate construal) or as an instance of an unlimited number of trips to school (indeterminate construal) remains unresolved. My main assumption in this work is that the difference in construal relies on the speaker’s flexibility in the conceptualization of events. In the following section I employ notions of degree of viewpoint extension and plexity to show how
the speaker accrues the conceptualization flexibility that allows either determinate or indeterminate construal of motion events.

5.4 Plexity and degree of viewpoint extension as motivations for the determinacy distinction

The difference between determinate and indeterminate construals rests upon the interaction of such notions as plexity and the degree of viewpoint extension. While the latter has been evoked in my discussion of the perfective vs. imperfective distinction, I propose that in order to fully motivate the conceptual basis for the determinate vs. indeterminate opposition we also need to discuss how the two types of motion are to be understood in terms of plexity. In general, my treatment of the notion of determinacy follows from and is a specific implementation of Langacker's conviction that "our cognitive ability to conceptualize situations at varying levels of schematicity is undeniable... The linguistic significance of this ability is hard to overstate" (Langacker, 1987, pp. 134–135). In particular, Langacker identifies abstraction as a common cognitive strategy of schematization of entities, spatial or temporal, wherein details at lower levels of fidelity are abandoned. Similarly to Langacker's notion of abstraction, I show how the interaction between the degree of viewpoint extension and plexity can be metaphorically conceptualized as capturing various levels of detail on a fine grid vs. a coarse grid. That is, while plexity provides an internal texture of a conceptualized event, the degree of viewpoint extension enforces a certain level of perceived detail which provides either a uniplex or a multiplex rendering of events.

The notion of plexity is explored by Talmy next to boundedness as essential in capturing the range of grammatical meanings denoted by closed-class elements. Yet, in the context of determinate vs. indeterminate distinction this notion alone is still
incapable of drawing a meaningful distinction between the two classes. In order to articulate the conceptual difference between events denoted by determinate and indeterminate verbs of motion, we will need to expand on Langacker’s notion of abstraction, incorporate the notions of reduction/magnification, and accept the relative value of plexity, as it pertains to the scale of granularity of the speaker’s perspective and his or her ability to volitionally modify it. Below I present the notion of plexity and then demonstrate that its specific instantiations in the form of the uniplex and multiplex construals are useful for discriminating the determinate and indeterminate Russian motion verbs, but only when defined and evaluated as relative to each other. That is, uniplexity versus multiplexity are not claimed to be inherent, objective characteristics of events, but rather construals imposed by the speaker and thus relative and subjective.

The category of plexity is particularly prominent in the nominal category of number where plural nouns denote multiplex entities and singular nouns are conceptually uniplex. In the verbal domain the opposition can be best represented by the conceptual distinction between instantaneous events (such as, ‘knock’, or more unambiguously, ‘knock once’) and a collection of such events (‘knocking’, ‘knock over and over again’). In other words, the notion of plexity qualifies events for their ability to be segmented into equal elements. Multiplex events can be divided up into constituent segments, which represent a number of identical instances. Uniplex events on the other hand cannot be represented by a collection of instances and are rather singular such that each one event has only one segment and this segment stands for the whole event.

As far as the motion verbs are concerned, the most basic view of a motion event corresponds to the SOURCE-PATH-GOAL schema, which I represent in Figure 20. This basic schema is accommodated differently to the determinate and the indeterminate motion construals. I propose that the interaction of this schema with
plexity results in various construals of motion events, which are lexicalized by the determinate and indeterminate motion verbs and their semantics under aspectually enforced viewing arrangements. Therefore, both types of motion (determinate and indeterminate) can be construed as uniplex or multiplex. At the same time, I claim that the source-path-goal schema is most accessible in the uniplex construal of determinate events, which arises in perfective contexts.

Let me articulate how motion events are refracted by the multiplex and uniplex construals. Motion events denoted by indeterminate verbs are necessarily multiplex in that they involve the idea of multiple trajectory segments as atomic particles of the overall motion, and each segment contributes to the multiplex character of indeterminate events. The uniform identity of the trips is not required in this construal so that trajectories to various destinations from various starting points at different times and under different circumstances are all construed as equivalent atomic members of the multiplex set. For instance, in sentence (95) the most typical reading is that Sasha habitually walks to school. Sasha may undertake trips to school at different times, from different starting points, and even to different endpoints if the school is conceptualized only as an abstract educational institution and Sasha attended various
Figure 21: A multiplex construal informing indeterminate motion

actual schools; however, each of these trips is conceptualized as equal to any other within the set of the habitual walking-to-school event.

(95) Саша ходит в школу.
Saš-a xod-it v škol-u.
Sasha-NOM.SG walk-PRES.3rd.SG. in school-ACC.SG.
‘Sasha walks to school. Sasha goes to school.’

In Figure 21 I represent a field of conceptualization of indeterminate motion under the multiplex construal. The different points within the conceptualization domain represent different motion segments. Note that under this particular construal the internal SOURCE-PATH-GOAL schema is backgrounded and abstracted from. To highlight this fact I represent individual segments as points rather than lines or vectors (the latter would imply that the PATH and GOAL are discernible under this conceptualization and I argue against this view). The segments represent unanalyzable discrete units, an infinite set of particles informing a multiplex construal of a motion event.

Motion events denoted by determinate verbs are also multiplex albeit in a different way. While the atomic element of indeterminate events is a single segment, the atomic element of determinate events is defined by immediate physiological properties of the
particular motion mode which is based on a cycle. For instance, ambulation is broken down into walk-cycles, where human appendages undergo a succession of actions necessary to complete two steps. This way, in (96) Sasha is construed as engaging in a repetitive cyclical activity of moving his appendages to sustain ambulation on his way to school; the steps themselves may vary in length and speed among other variables, but they are construed as equally representative of motion.

(96) Саша идёт в школу.
Sash-a id-et v shkol-u.
Sasha-NOM.SG walk-PRES.3rd.SG. in school-ACC.SG.
‘Sasha is walking to school.’

In Figure 22 I represent five snapshots constituting one half of a human ambulation cycle; it is important here not to assume structural parallelism with Figure 22 in that it is not the separate snapshots that constitute atomic elements of determinate motions, but rather whole cycles of them. The latter conceptualization is represented in Figure 23, where the complete ambulation cycle is symbolized by an arrowed arc.
The cycles are placed in a line as a way of iconically expressing their succession in a continuous ambulation event.

Naturally, the same cyclical character can be easily conjured up for other gaits, which I propose is applicable to all manner of motion types expressed by Russian verbs of motion. The specific gait strategy will differ accordingly across the different motion types, but it is the cyclic nature that underlies all manners of multiplex determinate motion. In this sense Figure 23 is equally representative of all manners of motion, be it walking, running, or swimming.

As I have shown, both types of events are multiplex in that they rely on the image schema of an atomic motion particle, which has different values for the two classes. The indeterminate verbs represent a single segment trajectory as the smallest unit comprising a multiplex set. For the determinate verbs the smallest human locomotion cycle is the particle populating the multiplex set. How does plexity then allow differentiation between motion events denoted by determinate and indeterminate verbs, if

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49It is possible to argue that the atomic element of human ambulation is a single step, as the mechanics of a single step on the right side are mirror-reflected on the left side; this observation would not affect my main argument.
both motion types can be construed as multiplex? I propose that the notion of plexity is a crucial one for distinguishing between determinate and indeterminate motion events, if it is considered not as an objective but rather as a relative quality of a motion event, such that the two types of motion comprise a contextualizing environment the various levels of viewing granularity of a motion event. Particularly, when construed as relative to each other, the internal plexity of determinate events is compressed to the point where determinate events become perceptually uniplex as an amalgamated unity of motion cycles that make up a single motion segment, and ultimately comprise the SOURCE-PATH-GOAL schema, akin to my representation in Figure 20. A collection of such uniplex segments (with their internal tripartite structure compressed into a Gestalt) in turn populate the set of indeterminate motion which is then construed as multiplex. In other words, determinate events are construed as internal to the structure of indeterminate events. In that capacity, determinate events are conceptualized as uniplex even if their multiplex quality is still conceptually accessible. My discussion of walk-cycles demonstrates that we can volitionally direct our attention to the internal structure of determinate events to recognize their multiplex character. This view founds further support and elaboration in Narayanan (1997), who offers successful computational models of human motion as deriving from “high-level cortical motor control schemas” Narayanan (1997, p. 2) with walk-cycles being represented at varying levels of specificity. At the same time, linguistic encoding of a motion event as either uniplex or multiplex is a way to capture a specific level of conventionalized conceptualization, where more fine- or corase-grained concpetualization is not accessible or relevant. This way, linguistic units provide a range of preconceived recipes for the construal of motion events.

The ability to employ the notion of plexity for distinguishing between determinate and indeterminate events hinges on the notion of degree of speaker’s perspective and
the human ability to change it by reducing or magnifying the scope of conceptual-
ization of an event such that ultimately determinate motion events are conceived as
uniplex even if the multiplex conceptualization is available. This ability has clear em-
bodied origins in visual experience. In particular, the conceptualization of a motion
event can be compared to a perceptual experience of a visually complex object. The
fidelity of perception changes depending on the distance between the observer and
the object (what Langacker (1987) identifies as “abstraction”, see pp. 132–137) so that
the observer gains the ability to discern miniscule details as the distance between the
observer and the observed object decreases; alternatively, the details blur to the point
where the object ultimately becomes a single speck if the distance is sufficiently great.

The same principle is at work in the conceptualization of motion events: the
mental conceptualization can be focused at different levels of detail by means of
scale reduction or scale magnification, such that if an indeterminate motion event is
scrutinized beyond the level of a single trip we would be able to discern that each trip
has its own internal composure made up of walk-cycles which are effectively atomic
components of a determinate motion event. That is, in the event of habitually walking
to school, every trip to school naturally consists of concrete walk-cycles. This way
perspective magnification allows us to transcend the distinction between determinate
and indeterminate events in that with enough magnification an indeterminate event
shows as consisting of determinate elements.

Alternatively, if we were to reduce the scale of the perspective where Sasha’s walk-
cycles on his way to school are discernible, we would be able to observe one particular
trip that Sasha engages in as a single gestalt, i.e. a uniplex entity. If we keep zooming
out even more, the single trips to school within a habitual\textsuperscript{50} activity denoted by

\textsuperscript{50}Naturally, not every determinate motion event is necessarily a composite of a larger
habitual indeterminate motion event; for the sake of simplicity I will assume that the event
described in (96) is in fact a part of the event in (95).
an indeterminate motion verb will lose their discreteness and the event will gain a uniplex quality. At this level we can speak of an amalgamated conceptualization of an indeterminate motion as a singular activity that is uniplex. At this level the composite units are no longer accessible; the whole unit represents an entity in and of itself that is best conceptualized as an activity or even a qualifying characteristic of an agent involved in it.

The discussion here shows that the notion of plexity is a highly versatile and particularly powerful notion if we consider it in the context of the variable degrees of specificity/magnification of speaker’s perspective. The plexity-based distinction between the determinate and indeterminate motion events can be understood as a function of perspective on the structural hierarchy of motion events along the axis of perspective zoom responsible for the variation in conceptualization granularity. At the highest level of granularity the multiplex character of determinate motion events is discernible, at the lowest level of granularity an indeterminate motion event is construed as uniplex (see Figure 24).

In order for the notion of plexity to be useful for the distinction between the determinate and indeterminate motion verbs, however, there is a particular scope of viewpoint perspective that needs to be assumed. It is the level where the internal composite structure of indeterminate events is still perceivable making them multiplex whereas the fidelity of ambulation cycles is blurred such that determinate motion events are conceived as uniplex. In the diagram in Figure 24 this scope corresponds to levels 2 and 3 as highlighted in red. These two levels of plexity granularity are contiguous allowing us to set up a direct opposition between a multiplex and a uniplex construal of motion. As I have demonstrated above, we are fully capable of shifting the level of zoom beyond this particular scope of conceptual zoom but the plexity-based determinate vs. indeterminate distinction is only available at the intermediary macro-
Figure 24: The role of degree of viewpoint extension in construing the plexity of a motion event; “Contrast” shows the relevant scope of perspective for plexity-based opposition between determinate and indeterminate verbs.

level encompassing levels 2 and 3 which allows the plexity contrast to be discerned between the two types of events; this contrast is relative to the magnitude of cycles ultimately comprising both kinds of events.

One last point is necessary in the discussion of plexity as essential to the construal of determinate vs. indeterminate verbs. We have to recognize the interaction between plexity and the fact that the difference between these two classes also resides in the notion of telicity such that determinate events necessarily involve the
idea of destination—even if it is backgrounded in the imperfective construal, while indeterminates profile multiple not necessarily identical destinations. Therefore, for instance, a uniplex construal of a determinate verb does not immediately equate with a uniplex construal of an indeterminate verb as a uniplex construal of a determinate event necessarily retains the notion of destination as an amalgamated element of the overall gestalt.

In the diagram in Figure 24 I capture the interaction between telicity and plexity at different levels of conceptual zoom. First, I represent the idea of destination as immediately available in the conceptualization of determinate motion if a single instance of determinate motion is considered outside of the context of the set of determinate motion events constituting an indeterminate motion, i.e. at level 3 in the diagram. At this level an event is construed as a single trip with an expected endpoint which is symbolized by a single line and a filled sphere at its end. This way we understand that a determinate event is telic. Second, at the level where indeterminate events are construed as uniplex they do not have the same intrinsic sense of a single trip and endpoint as determinate events do. Instead the identity of each trip is blurred and the indeterminate event acquires a sense of mass; the number of individual trips is virtually limitless as there is no intended goal for these trips as a collection. This is the construal that characterizes indeterminate events—even if conceptualized at the uniplex level—as atelic.

This way of characterizing the determinate vs. indeterminate opposition in Russian motion verbs provides a unified interpretation of the contributions that the notions as telicity and plexity make to the construal of motion verbs. Either of these notions alone, while capturing important facets of the distinction, is incapable of fully accounting for the meaning patterns we have observed for this verb class. Only to-
gather can they provide a fully grounded basis for the determinacy-based distinction of motion events.

However, the Russian verbal system, as per my earlier discussion in Chapter 4, obligatorily assigns either a perfective or an imperfective construal to any event. For that reason the discussion of motion verbs outside of aspect would be too far removed from actual speakers’ conceptualizations, if not incomplete. In other words, given the contributions of telicity and plexity to the construal of motion events, how do they coordinate with the construal patterns associated with grammatical aspect? Admittedly, fully fleshed out semantics will be specific to the semantic contribution of the perfectivizing prefix marking the perfective construal, and this is indeed the major aim of this work as we observe the contribution of the verbal prefix za- to the semantics of perfective determinate and indeterminate verbs. However, at this point I am interested in abstract category-broad patterns that are at work outside of the specific semantics of perfectivizing prefixes. Establishing these patterns ensures that my analysis is generalizable to prefixes other than za-. In the next section I take our current understanding of the conceptual basis for the determinacy opposition and show how it reflects in the context of aspeccual construal.

5.5 Determinacy and grammatical aspect

The major variables in the perfective vs. imperfective dichotomy are the notions of perspective and perceptual scanning. I will examine how each of them interacts with the underlying schemas for determinate and indeterminate events.
5.5.1 Plexity and extension degree of speaker’s perspective

The notion of speaker’s perspective recognizes proximal perspective as essential for the imperfective construal, and distal perspective as informing the perfective construal. We have also observed that the degree of conceptual zoom is responsible for motion events to be construed as either uniplex or multiplex. While the domains of application of the perspective element may be different for the two cases, it is clear that we are in fact dealing with the same mechanism. That is, the degree of speaker’s perspective, or conceptual zoom, is ultimately responsible for the distinction in the aspectual domain as well as in the domain of determinacy.

I propose that the perspective adjustment informing the determinate vs. indeterminate opposition provides context for the perspective adjustment informing the perfective vs. imperfective opposition. What I mean by that is, given the scale of conceptual zoom inducing specific plexity interpretation of a motion event, the aspectual construal allows local zooming in and zooming out along this scale which defines the exact value that the perfective and the imperfective construal have for determinate motion and indeterminate motion. My claim is that the principle of perfective-imperfective shift for the two types of motion is the same; however, the type-specific interpretation of aspectual contribution depends on where on the scale of plexity each of them is.

Let us consider determinate motion. We can identify zoom levels 3 and 4 in Figure 25 as the domain of determinate motion in that both levels correspond to two possible construals of a telic motion. Level 4 represent the proximal view of the event where the separate elements constituting it are discernible. For determinate construal of ambulation these elements are represent by walking cycles (as in Figure 22 on p. 158). Level 3 represent a distal view of a determinate motion event where the sep-
arate cycles are not discernible. Instead there is a construal of a walking event as a whole with the notion of destination coming in focus.

I hypothesize that the difference in plexity between levels 3 and 4 is recruited to express the aspectual distinction between perfective determinates and imperfective determinates. That is, the proximal perspective is generally associated with imperfective construal. In the context of determinate motion it denotes a multiplex interpretation. At the same time, the distal perspective, associated with the perfective construal corresponds with a uniplex conceptualization of determinate motion events. In other
words, speakers of Russian employ the uniplex vs. multiplex viewing arrangements of a determinate event to encode aspectual distinction between perfective and imperfective construals: uniplex determinate motion is perfective, and multiplex determinate motion is imperfective.

A parallel mechanism can be identified for indeterminate motion events. Level 1 and 2 in Figure 25 represent the two possible construals of indeterminate motion based on how plexity is evaluated at a given level of conceptual zoom. At level 2 the multiplex quality of indeterminate motion comes into foreground as separate trip segments are identifiable in the set. At level 1 the internal discreteness of events is lost such that the motion is construed as a uniplex entity with mass quality to its internal composure.

The difference in plexity between levels 1 and 2 is recruited to express the aspectual distinction between the perfective and the imperfective construal of indeterminate motion. Namely, the proximal perspective is generally associated with imperfective construal. In the context of indeterminate motion it denotes a multiplex interpretation. At the same time distal perspective, associated with the perfective construal corresponds with a uniplex conceptualization of indeterminate motion events. In other words, speakers of Russian employ the uniplex vs. multiplex viewing arrangements of an indeterminate event to encode aspectual distinction between perfective and imperfective construals: uniplex indeterminate motion is perfective, and multiplex indeterminate motion is imperfective.

I summarize this generalization of aspectual construal for determinate and indeterminate events in Figure 26. Here I show that the notion of viewpoint informs the uniplex vs. multiplex distinction in the category of plexity, as well as the perfective vs. imperfective distinction in the category of aspect.
Ultimately, it is the difference between the distal and proximal viewpoint applied to either the domain of aspect or the domain of plexity that determines the binary opposition within each domain. The two oppositions combine to establish a four-way distinction for motion verbs where each of the resulting conceptualizations (marked by a ‘+’ in Figure 26) can be identified by a combination of three different qualities in terms of motion event, plexity and aspect. Particularly:

1. Determinate uniplex perfective.
2. Determinate multiplex imperfective.
3. Indeterminate uniplex perfective.
4. Indeterminate multiplex imperfective.

What this generalization reveals is the fact that imposing a perfective construal on a motion event triggers a zooming out of a conceptual perspective such that the internal structure of the event—be it determinate or indeterminate—becomes indiscernible.
On the other hand, an imperfective construal induces a zooming in of a conceptual perspective allowing the internal multiplexity of either determinate or indeterminate event to be recognized.

5.5.2 Plexity and perceptual scanning

The notion of perceptual scanning identifies whether any particular time segment in the conceptualization of an event is more salient than others and whether any time segment can be mentally accessed in the overall construal of an event. Langacker observes that when any time segment in the event can be picked as equally representative of the whole event as any other we are dealing with sequential scanning characteristic of imperfective construal (Langacker, 1987). I hypothesize that sequential scanning is analogous to multiplex construal where an entity is construed to have a discernible internal composition. In the context of determinate motion verbs, for instance, just like a single walking cycle is a snapshot accessible in sequential scanning of the event, it also constitutes an internal element of the set of walking cycles ultimately comprising a determinate motion event. In that sense, the multiplex construal is analogous to sequential scanning. On the other hand, a summary scanning of a determinate motion event compresses its internal elements (e.g., walk cycles for ambulation) into a single gestalt where the last segment in an event is viewed as particularly salient. This interpretation bears clear resemblance to a uniplexity informed conceptualization of determinate motion as an event is construed as a single whole with a strong sense of its inherent telicity.

The same pattern of plexity-scanning correspondence is characteristic for indeterminate motion verbs. Just like a single trip is a snapshot within the sequential scanning of the event, it also constitutes an internal element in the set of trip segments ultimately encompassing an indeterminate motion event. Therefore, multiplex
construal of indeterminate events is analogous to sequential scanning. Alternatively, a summary scanning of an indeterminate motion event condenses its internal elements (e.g., single trips) into a holistic gestalt, which, due to intrinsic atelicity features, gives it a sense of mass quality, extending endlessly unless bounded. We can conclude that such interpretation evokes a strong sense of similarity to a uniplexity informed conceptualization of indeterminate motion.

At this point it should come as no surprise that we are able to identify analogous conceptual mechanisms between the boarder notions of determinacy and grammatical aspect. Both perceptual scanning and the viewpoint extension of speaker’s perspective contribute fundamentally to the aspectual opposition; furthermore, as I have shown in Section 4.2 (p. 101), aspectual distinction necessarily rests on the conceptual contributions from both of these notions. Therefore, if we are to identify conceptual association between plexity and the ex viewpoint extension of speaker’s perspective as motivating aspectual construal of motion verbs, we would also expect to find similarly strong associations between plexity and perceptual scanning. As I have shown above, such association is very plausible since it not only allows accounting for the distal vs. proximal entailments in the interaction between plexity and aspect, but—crucially—the fact that determinate motion events are intrinsically telic, whereas indeterminate motion events are intrinsically atelic. In that sense, the notion of perceptual scanning addresses another component contributing to the distinction between determinate and indeterminate motion construal, i.e. telicity, whereas the extension degree of speaker’s perspective would be insufficient to account for it.

Clearly, the interaction that I have demonstrated across plexity, perspective, telicity, and perceptual scanning is a very abstract generalization that captures the basic pattern of determinacy-aspect integration at the most fundamental level. We need to recognize that this pattern is further elaborated with more specific facets of the verbal
construal such as the notion of telicity and the semantics of the perfectivizing prefix. As I proceed with my discussion of the semantics of za-, I show how the pattern I have identified here is instantiated in za-perfective motion verbs.

The main advantage of the account of the interaction between determinacy and aspect is that I rely on a key human cognitive ability to conceptualize a single event from different perspectives highlighting the facets that are more relevant to a specific construal. In that way, the interaction that I observe between aspect and determinacy characterizes the two notions as cognitively linked, from which it follows that the close connection between the two in motion verbs is to be expected.

In the next subsection I elaborate further on the semantics of indeterminate motion verbs that are described as different functional uses of this class.

5.6 Conclusion

To conclude my discussion of motion verbs in the context of imperfective construal, I will highlight a few important observations I have made in this section. First, the determinacy distinction in plexity and telicity is lexicalized in Russian for motion verbs granting this class a unique status among other Russian verbs. In terms of telicity, the crucial difference is that indeterminate verbs denote events lacking inherent destination, whereas determinate verbs denote events which are construed to have—at least intrinsically—temporary boundaries and a distinct telic component. In terms of plexity, events denoted by both determinate and indeterminate verbs represent a construal where the event is thought to consist of an unlimited number of virtually identical instances, separate trips for indeterminate verbs, and locomotion cycles for determinate verbs. The plexity opposition between determinate and indeterminate verbs becomes conceivable at the point where the viewpoint extension of
the speaker’s perspective picks up on the multiplex quality of indeterminate events and compresses the determinate motion events into uniplex events. However, a multiplex construal of determinate motion events and a uniplex construal of indeterminate motion events are also possible. These pairs of possible plexity construals for each motion type are recruited to differentiate between the imperfective and perfective construal for determinate and indeterminate motion events. Essentially, the notion of viewpoint proximity in the domain of aspect corresponds to the motivation for the uniplex vs. multiplex distinction in the construal of motion events. Particularly, a distal perspective is associated with a perfective construal of both determinate and indeterminate motion, whereas a proximal construal is associated with an imperfective construal of determinate and indeterminate motion. Finally, the aspectually salient strategy of perceptual scanning finds a reflection in the inherent telicity of motion events so that sequential scanning is associated with atelic events, whereas summary scanning is associated with telic events.

This complex system is profoundly aspectual in nature. First, it is through viewpoint adjustments that various impressions of the temporal texture become accessible to the cognizer; the event is perceived as a non-separable whole or as a congregation of individualizable units. Second, the archaic aspectual opposition, retained in the category of determinacy, participates in the obligatory perfective/imperfective marking of the contemporary Russian. It is, in effect, a two-layered aspectual composition, which offers high versatility of expressiveness—albeit obligatorily encoded in the choice of stem or aspectual marking—to the Russian verbs of motion.

One property of the motion verbs that has not been addressed in this chapter is the class-internal variation. In particular, I have been tackling class-general patterns of determinacy based opposition between the determinate and indeterminate pairs, assuming that each pair is equally representative of the class and the relationship
between the verbs in each pair are virtually identical for all verbs of motion. This view may overshadow the fact that just like many other linguistic phenomena, determinacy is characterized by prototypicality effects, and these are reflected in the behavior of specific motion verbs. I will discuss some of the aspects of class heterogeneity of the Russian motion verbs in Chapter 7.3.

In the next section I provide my own account of the patterns of interaction between Aktionsarten and determinacy as revealed in the semantics of Russian za-perfectives. I will ground my reasoning in giving utmost significance to spatial arrangement as underlying the construal of phasal components of an action and the protoscene of the Russian prepositions and prefix za/za-. 
In this chapter I offer an integrated account of the BEGIN/END opposition in za-perfective verbs of motion. Before I proceed with the final stage of my analysis, I would like to reiterate some of the major methodological points. My discussion of the semantics of za-perfective verbs of motion relies on the tripartite interaction of the categories of aspect, determinacy and the prefix za- as a complex system. I view the interaction of the three components as not strictly compositional such that the resultant phenomenon is qualitatively different from the mere summation of aspect, determinacy and za-, and demonstrates emergent attributes. I propose that the START/END opposition is, indeed, one of the emergent attributes. I also treat za-perfective of motion verbs as a relatively independent phenomenon, a structural island of sorts, that can be approached as a self-sufficient entity for the purposes of research. The bipartite semantic opposition is consistent across 1) two classes of motion verbs as defined by determinacy; 2) when they are prefixed and thereby perfectivized; 3) by prefix za-; while outside of this interaction the system identity is lost. The acknowledgment of the interaction between these areas provides for an integrated account of the semantics of za- within the defined scope.

This chapter starts with a cognitive account of the semantics of the prefix za-. In Chapter 3, I discuss the evidence for spatial grounding of prefixal semantics and elaborate on the advantages of utilizing the semantics of prepositions for exploring cognate prefixes in Russian. As two distinct morphological classes, prefixes and prepositions...
share common spatial origins and synchronically apparent phonological and semantic attributes across cognate pairs. This close interconnection is evidenced by broad typological patterns of languages employing prefixes as construal-structuring modifiers of events, which develops from their spatial origins as structuring modifiers of spatial scenes. At the same time, prepositional semantics within cognate pairs can be utilized to explore these spatial origins, since prepositions constitute a morphological class retaining stronger synchronic representation of the motivating spatial meaning. In that sense, my account of the semantics of za- is grounded in the semantics of the preposition za. I assume that the prefix represents a more grammaticalized instance of the original spatial adverb, which gave rise to both za- and za. What this means specifically for my analysis, is that I view prefixal meanings as further extensions in the common network of meanings for the cognate prefix and preposition. While the exhaustive account of the variety of meaning attributed to the prefix za- may eclipse the range of prepositional semantics, I show that the BEGIN and END meanings can be traced to two branches in the prepositional semantic network, as developed in Tyler and Shakhova (2008). These branches are ultimately motivated by the dichotomy between the intrinsic and the relative reference frames.

I start this chapter by identifying the motivating protosce ne, discuss its conceptual transformations throughout different reference frames, and argue for mechanisms of extensions of the prepositional semantics into the temporal domain to express aspectual construals. I further support this analysis by examining the distribution of other prefixes in contexts where they compete with za- in Chapter 7.
6.1 Basic protoscene

The Trajector (TR) and the Landmark (LM) constitute a basic opposition of cognized entities, where the TR denotes a foregrounded entity, whose location is identified in relation to the LM. Employing these notions, Tyler and Shakhova (2008) define the protoscene of the Russian preposition *za* as consisting of the TR and the LM aligned horizontally and in such a way that the TR is at the back of the LM (i.e., to the right of LM), while the LM is oriented away from the TR (i.e., facing left; Figure 27). Essentially, the protoscene profiles a spatial arrangement where the TR is behind the LM. To show the orientation of the LM in this Figure, I use a nose-like triangular shape on the left side of the LM, which iconically suggests the direction where the LM is facing (I carry over this diagrammic conventionalization from Tyler and Shakhova’s account). This way I schematically capture the fact that the LM has or is assumed to have an orientation arising from its front-back asymmetry. The asymmetry defines
the spatial configuration of za’s protoscene in that the LM is facing away from the TR and the TR is at the intrinsic back of the LM.

This diagram is a two-dimensional representation of a highly abstract image schema. It derives from a system of diagramming conventions that has been shaped in works of Langacker (1987, 1991) and to a lesser extent Talmy (2000). They employ two-dimensional diagrams to represent abstract spatial constructs underlying human experience and conceptualization of space. The explicit rules for diagramming in this tradition have not been formalized and may warrant a separate investigation. Nonetheless I adhere to the visual conventions consistently found in works by Langacker, as they enable me to explore the spatial grounding of the aspectual semantics of za- and offer another modality for the expression of its semantics.

For the protoscene of za, I adapt Tyler and Shakhova’s diagram with very minor adjustments. As a two-dimensional representation, the diagram does not capture the depth dimension of the spatial configuration, but the relationship between the TR and the LM is sufficiently accounted for with only two dimensions. The protoscene of za in Figure 27 captures the idea of “behindness” by locating elements of the scene that are closer to the vantage point to the left (LM) and those farther—to the right (TR) as though looking at the spatial arrangement from vantage point facing right. However, the diagram can be flipped around the vertical axis—so that the TR is to the left of the LM (see Figure 28)—and still present the same basic protoscene, which is why the protoscene describes the relationship between the LM and the TR merely as “aligned horizontally”. Rotation around the horizontal axis is possible but only for extended meanings\textsuperscript{51}, within the network; these other image schemas do not constitute a part of the set of variants implied by the original arrangement of the image schema.

\textsuperscript{51}One of the extended meanings is identified by Tyler and Shakhova as \textit{covering} which presupposes that the LM and the TR can be aligned both horizontally and vertically. The notion of viewpoint becomes especially crucial here as it sets the vector along which the
The protoscene offered by Tyler and Shakhova proves to be a close match to Levinson’s description of a highly grammaticalized spatial particle and is representative of a widely attested grammaticalization pattern across typologically varied languages (Levinson, 2003). In particular, Levinson proposes that at the end of the grammaticalization trajectory a term abstracts away from a structural element of the whole object (such as “back [part] of car”) and instead projects “a search domain off the [identified] facet” of that object (such as “area at the back of the car”) (Levinson, 2003, p. 106). That is, the particle shifts the meaning from a part of an object to the area adjacent to that part, or “search domain”. Langacker (1991, p. 177) defines it as “the region to which a locative predication confines its trajector (i.e., the set of points such that the specifications of the locative are satisfied if the trajector occupies that point)”. In other words, the interlocutor is given a cue to search for a Figure in a region which is spatially identified only by the direction of the vector off of the facet of the ground entity. Such is the difference, for instance, between the back of the car and the region behind the rear of the car: in the latter case the listener has to project behindness arrangement between the LM and TR is maintained regardless of whether it is vertical or horizontal.
an area off of the back of the car and locate the figure within its boundaries (which are much less clear-cut than in the case, where the English back denotes a region of an object).

A similar analysis is applicable to the semantics of za. That is, if we are to identify the area adjacent to the back side of the LM, i.e. Levinson’s and Langacker’s “search domain”, the TR in Tyler and Shakhova’s diagram is then located within the scope of the “search domain”, precisely where it would be expected. The difference in the two approaches is not principal: while Tyler and Shakhova identify the spatial relation profiled by za by establishing, where the TR is located in relation to LM, Levinson identifies an area or scope, where the TR could be potentially located for the spatial relationship to be that of za. In other words, while Tyler and Shakhova’s diagram captures one (and, perhaps, most prototypical) of the possible points for the location of the TR, Levinson identifies the whole set of possible points as an area. In Figure 29 I map both representations, as they represent a mutually compatible scene.
In a sense, Levinson’s model is more closely tied to the actual spatial arrangement, such that the notion of verticality and distance along the horizontal axis between the TR and LM can be inferred more immediately. For instance, we could imagine that TR’s center of gravity does not have to be horizontally aligned with the center of gravity of the LM; it could be located lower or higher. Similarly, there are no objective limits to proximity and distance between the TR and the LM, as long as the TR is remains within the identified search domain. Tyler and Shakhova’s diagram provides a much more abstract representation of this spatial relationship where the notions of objective proximity and vertical alignment are abstracted away from in favor of capturing the mere notion of “behindness”. This is indeed a useful approach to the construal evoked by za, since Tyler and Shakhova demonstrate a large variety of extension of the central sense that reach far beyond the most immediate spatial conceptualization encoded in za, such as FOCUS OF ATTENTION, FOLLOWING, purpose (see Tyler and Shakhova, 2008 for a detailed motivation for these senses). As I show in in the further on, some of these extensions constitute fundamental elements of my analysis of the semantics of za- as a perfectivizing prefix.

For now, I am primarily concerned with the spatial arrangement in the protoscene, which informs the range of meanings and extensions for both the preposition za and the prefix za-. For the preposition, the resulting interpretation of the central spatial scene as represented in Figure 29 can be described by a number of English prepositions and prepositional phrases of which behind, beyond, over, and on the other side of are perhaps the best renderings of the original construal, as in the following examples.

(97) Велосипед за машиной.
    Bicycle_{TR-MON.SG} za car_{LM-INSTR.SG}
    The bike^{TR} is behind the car^{LM}.
6.2 Relative and intrinsic reference frames in the semantics of za and za-

The way I have identified the protoscene of za thus far includes both a vantage point, and a LM with an internal orientation. This is the construal with the fullest specification of the spatial arrangement, intrinsic orientation, and vantage point. However,
depending on the location of the vantage point in relation to the scene and the presence or absence of intrinsic orientation in the LM, we can identify at least two variations on the proposed protoscene. These two variations arise from the relative and intrinsic reference frames. Depending on the reference frame assumed by the speaker, either LM's intrinsic orientation or on-scene vantage point is necessary in the spatial arrangement.

Within the intrinsic frame of reference, the LM is geometrically asymmetrical and has conventionalized front and back segments. The image schema of za- is then mapped on the scene, where the topography of the LM, with its intrinsic front and back sides, identifies the location of the TR in the region at the back of the LM. Therefore, as long as the speaker is able to identify the back of the LM, the speaker’s physical position in relation to the scene is a set of virtually unlimited vantage points. The speaker can be facing the front of the LM; looking at the arrangement from a side (which is the vantage point of the reader looking at the diagrams I have used to represent the protoscene, see Figure 30); or above; be behind the TR; or even between the TR and the LM. This is the spatial arrangement in (97), where with clear front-back segmentation the car provides a stable anchor of reference and the speaker is capable of describing the spatial relationship between the car and the bike from any point.

If the LM does not have a default front-back orientation, the speaker enforces such orientation setting up a relative frame of reference. The assignment mechanism is described by Levinson (2003) as a 180° rotation of the speaker’s coordinate system, in that the speaker assumes a vantage point on the axis which follows the horizontal arrangement of the TR and the LM whose spatial relationship is to be represented. The speaker casts his perspective along the axis in the direction of the LM so that the speaker’s front is facing the LM. This orientation is then rotated 180°. and mapped
onto the LM. In other words, the LM is assumed to be facing the speaker from the point, where he or she would need to be in order to describe the spatial configuration such that the TR is indeed behind the LM. This is the arrangement in (100) where the tree—lacking intrinsic orientation—is ascribed a front-back segmentation, which coerces a construal, where the bike is located at the tree’s back (not simply next to it, or at its side) and the speaker is facing the tree’s front. This anthropomorphizing operation has been attested in other languages. For instance, Vandelooise (1991, p. 39) shows that the French *devant*/*derrière* also depend on a “mirror-image contextual orientation” in similar contexts.\footnote{Note that the sentence in (97) may also be construed under a relative reference frame, where the car’s intrinsic orientation is superseded by the imposed construal of the speaker. Under this arrangement, any side of the car can be its back, as long as the bicycle is located in the region adjacent to it. For the sake of simplicity I will limit my interpretation of (97) as informed exclusively by the intrinsic reference frame.}
The significance of the two reference systems in the context of za cannot be overestimated. On the whole, the two ways of viewing the spatial arrangement of za emphasize the fact that language is a malleable means of communication with a variety of tools to encode competing construals of a single scene. More specifically, Tyler and Shakhova (2008) observe that it is the difference between these two reference frames that motivates the major branching in za’s polysemy network into the IN-TANDEM sense (as motivated by the intrinsic reference frame, as in (97)) and the BEHIND sense (as motivated by the relative reference frame, as in (100)). In fact, the two branches make up two major semantic clusters (or branches) in the semantics of the preposition of za in Tyler and Shakhova’s account. A cluster characterizes a significant extension from the semantics in the protoscene, which in turn forms the basis for other extended senses. The difference between the two clusters allows Tyler and Shakhova to capture a wide range of semantic extensions of the protoscene, while recognizing the fact that these extensions are related within a cluster and both clusters are ultimately related to the protoscene. Figure 31 adapts Tyler and Shakhova’s diagram representing the fundamental structure of the network of the preposition za. It shows extended senses for the two clusters. I identify these groups of extended senses as motivated by either the relative or the intrinsic reference frame53.

I interpret this conceptual branching as having an equally seminal effect on the semantics of za-perfective motion verbs. The two frames of reference ultimately motivate the interplay between the semantics of aspect, determinacy of motion verbs, and

53Note that in the original the authors refer to the relative reference frame as “deictic”, which in this context is a non-substantial difference in terminology.
the prefix za- resulting in the BEGIN/END construal dichotomy for the determinate vs. indeterminate verbs. Namely, the PURPOSE extension of the IN-TANDEM sense collocates with the determinate semantics as the intrinsic telicity of determinate motion verbs is highlighted in perfective construal. On the other hand, the ON-THE-OTHER-SIDE extension of the BEHIND-DEICTIC sense collocates with the indeterminate stems reinterpreting their multiplex quality as a generalized activity domain, wherein the TR is temporally located.

In what follows I provide a detailed examination of the mechanism, which incorporates the semantics of grammatical aspect, determinacy, and prefix za- to produce the BEGIN/END semantic pattern across za-perfective motion verbs. For each of the clusters, first, I present the semantics of za in the spatial domain according to the

Figure 31: The original polysemy network of za, adapted from Tyler and Shakhova (2008)
specific frame of reference, which involves a brief examination of the semantics of the
cognate preposition za, and the noun prefix za-, if applicable. Then I use observations
made in the spatial domain to extend my analysis to za-perfective verbs of motion,
as I incorporate notions of aspect and determinacy.

6.2.1 Relative frame of reference

Relative frame of reference in the semantics of the preposition za

The behind-deictic cluster is motivated by the relative reference frame, since the
LM is assumed to lack inherent orientation. The speaker's perspective is necessary
in order to coerce a front-back segmentation for an otherwise unoriented landmark.
One of the extensions of this cluster is the beyond/on-the-other-side meaning,
which evokes the idea of a boundary between the observer and the TR. The boundary
itself is conceptualized as the LM. Crucially, the boundary does not preclude mental
access of the observer to the TR, but merely introduces a hurdle of a varying degree
of difficulty associated with passing through it (cf. a similar claim in Tabakowska,
2003 for the Polish za-).

(101) Дом за рекой.
    Dom za rek-oj.
    House-NOM.SG za river-INSTR.SG.
    The house is over the river.

For instance, in (101) the river does not create an impassable barrier for the
speaker's perception of the house, as the house can be visually accessed from the
side of the river containing the vantage point. Alternatively, the speaker can rely on
his or her knowledge of the whereabouts of the house, as he or she construes the
scene without the immediate necessity of having visual or physical access to it (that
is, one can say ‘the house is over the river’ without necessarily perceiving the house
or its location at the moment of utterance). As a result, the location of the TR is understood to be behind or beyond the LM.

This extension introduces the major notions of boundary and search domain, which bear particular significance for recognizing the spatial arrangement introduced by the preposition za, as well as reflected in the temporal domain for the perfectivizing prefix za-. The particular values of these notions change depending on the context, however, they possess a homologous constancy in that both notions retain their conceptual salience in the spatial and the temporal domains. In the spatial domain, the interaction between the notions of boundary and search domain brings us back to Levinson’s discussion of the grammaticalization patterns of spatial particles. Recall that a spatial particle projects “a search domain off the [identified] facet” of the LM (Levinson, 2003, p. 106). The spatial arrangement encoded by za gives a conceptual cue to search for the TR in a region, which is spatially identified only by the direction of the vector cast off the back of the ground entity (see Figure 32). Applied to the scenario where the location of the house is identified in relation to the river—as in (101)—the river is construed as the defining landmark in the arrangement. As rivers lack explicit front and back sides, the speaker assigns front-back segmentation with the proximal bank being the front, i.e. facing the speaker, and the outer bank being the back. The newly conceptualized back side of the river then projects an area in the direction following the vantage point, which constitutes Levinson’s search domain. The house is understood to be located within this search domain. It is important to note, that the specific shape of the river is of little relevance here, as topological abstraction takes precedence over the actual curvature and dimensions of the river. As a result, the river is construed rather as a schematized linear entity, which is a characteristic feature of linguistic topology, where conceptualized shape and magnitude of an entity are greatly dependent on the relevance of the afforded construal (see
Talmy, 2000, pp. 223–225). In this context, the defining topological characteristic of the river is its horizontal extension and a relatively low salience of its width and depth; therefore, it evokes a topological schema of a line.

One of the consequences of such arrangement is that the area containing the observer is necessarily excluded from the search domain. In fact, it can be conceived of as a negative space of the set of locations where the house can exist; in Figure 32 I identify this area as the “negative (space) domain”. In this respect it is important to recognize the wider frame of reference as anchoring the particular spatial relation between the TR and the LM, which has the scope over both the search domain and the negative space domain (Talmy, 2000, pp. 312–313); the LM as a linear boundary dis-
sects the general scope into the domain that contains the vantage point (the negative space domain) and the other domain that contains the TR (the search domain).

Furthermore, the topology of the LM plays an important role in the exact construal of how definite such boundary can be. Objects that are point-like in their horizontal expansion, such as a tree for instance, are not very good candidates for enforcing conceptual boundaries between the negative domain and the search domain. If the boundary were to be assumed in these contexts, it would have to align along the segments on the outermost parts of the trunk or the foliage, as though the vantage point were a directed source of light and the tree were casting a shadow; the borders of the area in the shade would then constitute the element of boundary in this scenario. Objects that extend lengthwise are on the other hand better at defining boundaries, in that they are capable of segmenting out a definite, physically bounded region purely by the spatial configuration inherent in their shape. The vantage point in these instances is assumed to be perpendicular to the general horizontal expanse of the LM. The object construed as the boundary does not have to be physically a straight line, but should rather serve as a good candidate for an abstracted conceptualization of a linear-like object capable of segmenting the whole spatial scope into the negative space domain and the search domain. Good examples of such entities are rivers, mountain ranges, fences, country borders, etc. With LMs of this kind, the boundary practically coincides with the outermost part of the LM; or—in more abstract schematizations of the LMs typology—the width of the LM is compressed, and the LM as a whole is construed as a boundary. The on-the-other-side extension of za has a clear bias of recruiting exactly these kinds of LMs.

Due to the fact that in this construal the LM is not just an object, but an object capable of evoking a reconceptualization as a boundary, I posit that the search domain acquires the property of a mass-like entity, which is explicitly bounded on the side
of the boundary. It extends endlessly not only beyond the boundary in the direction of the perspective, but also along its horizontal expansion. Any internal structural composition of the search domain is backgrounded, as its identity is revealed only in contrast with the negative domain. This quality of the search domain is significant in recognizing that locating the house behind the river does not assign any specific location that is within the search domain. Rather, the search domain represents a region or a set of potential locations, of which only one is actually occupied by the house. Therefore, if one were to locate the house over the river, he or she would have no unique access point, but rather an extensive region, where every point would be virtually as good of a candidate for the location of the house as any other. In other words, za here only identifies the search domain of the TR, but not its exact location; it instructs that the relevant entity be positioned within a certain spatial range on the other side of the identified boundary, but does not specify its precise position. This is the conceptualization underlying the ON-OTHER-OTHER-SIDE sense. It relies on the conceptual opposition between the search domain and the negative domain, which are demarcated by a LM entity.

The importance of this semantics extension of the preposition za is that it is this particular entailment from the ON-OTHER-OTHER-SIDE extension that motivates one of the aspectual instantiations associated with the prefix za-. That is, while Tyler and Shakhova’s work addresses the semantics of the cognate preposition za, in the next paragraphs I show that a very similar conceptual pattern can be identified for the prefix za-. This follows the line of my discussion, which aims at exploring how the spatial foundation of the prefix can be recruited to account for its semantics in the aspectual domain.
Extending On-the-Other-Side to the noun prefix za-

One of the instantiations of za- as a result of its grammaticalization is its function as a noun prefix, which maintains the ON-OTHER-OTHER-SIDE sense. Together with the nominalizing suffix -je⁵⁴, za-, for instance, participates in the morphological structure of a noun, which denotes an area immediately adjacent to one side of either the Arctic Circle or the Antarctic Circle, which constitute together the Polar Regions, Заполярье Zapoliar’е. Here, za- is introduced into the morphological structure of the noun to identify the spatial arrangement specific for the Russian speakers’ construal of the Polar Regions as extending beyond the Arctic and the Antarctic Circles. What the term highlights is the expanse of the area, which is strictly delineated by two parallels of latitude in the Northern and Southern hemispheres. In this sense the Polar Region is profiled against the area that is on the other side of either of the polar circles, and that area is obligatorily not in touch with either of the Polar Regions.

(102) Заполярье
Za-poljar’е
Za-polar-NOUN
The Arctic and the Antarctic; the Polar Region; literally the area beyond the Polar circles.

This particular example underscores the importance of a viewpoint assumed when conceptualizing the region of Zapoljar’е. The viewpoint has to be speaker-oriented

⁵⁴Note that due to spelling conventions, it is represented by イ/e, or 'e/ie in the transliteration scheme I adapt here. The primary function of -je/-ie in the broader range of application is enforcing a construal of the semantics of the original verbal stem as an entity or a phenomenon, i.e. primarily nominalizational, e.g. дышать dyˇsat’ ‘breathe’ → дыхание dyxanie ‘breath’; увядать uvjadat’ ‘wither’ → увядание uvjadanie ‘withering’; уметь umet’ ‘be able’ → умение umenie ‘ability’; укрыть ukryt’ ‘hide’ → укрытие ukrytie ‘shelter’, and so on (The verb final t’ is the infinitive inflection, which is excluded from the nominalization. Some of the nominal stems here retain the now obsolete nasal quality of the stem final vowel of the verb with the resurfacing ‘n’ before the suffix -je). I assume that the same mechanism is at play with geographical entities, where the prefix signifies the demarcated area as an identifiable, discrete entity.
as we cannot rely on Earth’s single coordinate direction to refer to both Polar Regions simultaneously as they would have to be opposite for the Arctic (North of the Arctic Circle) and the Antarctic (South of the Antarctic Circle) regions. Now that I have explicitly addressed the import of the speaker’s perspective in the construal profiled by za, we can address the mechanics motivating the conceptualization of Zapoljar’e by incorporating the relative frame of reference. Addressing the semantics of the nominal prefix za- will provide important insights into the semantics of za- in verbal contexts.

Let me articulate the construal motivating the use of za- in Zapoljar’e in more detail. It is clear that the notion of vantage point plays a major role in conceptualizing, what constitutes the Polar Region. In fact, the conceptualization here is abstractly evocative of the river and the house scenario discussed earlier, albeit tied to the coordinate system of the Earth. Particularly, the speaker is assumed to be located to the south of the Arctic Circle, while the Arctic Circle represents the LM, which demarcates the area to the north of it as the search domain. In this construal, the
speaker’s perspective is directed to the north as he or she faces the Arctic Circle. The same construal is responsible for conceptualizing the region to the south of the Antarctic Circle. This time the speaker is located to the north of the Antarctic Circle, his or her perspective is directed to the south facing the Antarctic Circle, and the Antarctic Circle demarcates the area to the south of it as the relevant search domain.

The location of the speaker and his or her vantage point in both scenarios is tied to a relatively contained geographical region. In fact, it is plausible to claim that it reflects a canonical vantage point for the majority of the Russian population inhabiting an area to the south of the Arctic Circle and north of the Antarctic Circle. Perhaps the need for lexicalization of this particular term is more relevant to the speakers of Russian given the proximity of the Northern Polar region to the historical Urheimat of the nation and its expanse throughout the territory of Russia (see Figure 33). In this respect, the boundaries of the country represent the spatial context for the conceptualization. Furthermore, it is very likely that while the term was initially used only to denote the area north of the Arctic Circle, with the expansion of the geographical awareness, it was extended to also denote the area south of the Antarctic Circle.

The pattern of identifying geographical locations in relation to a natural boundary is in fact very productive in Russian. The language appears to select geographical objects with a considerable horizontal expansiveness as a means to locate an area on the opposite side of the default speaker’s perspective. Закавказье Zakavkas’ye—commonly translated into English as ‘Transcaucasia’ or ‘Southern Caucasus’—is another example of this pattern. Derived from the noun Кавказ Kavkaz ‘the Caucasus (Mountains)’ by the prefix za- and the suffix -je, it denotes the area to the south of the mountain ridge encompassing Armenia, Azerbaijan, and Georgia. The construal I

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55 The area of the original settlement of speakers of a protolanguage.
have articulated in relation to the Polar Region is at play here as well. The mountain ridge represents the LM separating the whole spatial scope in two domains. The domain to the south of the ridge is the search domain; the area to the north of the ridge is the negative space domain. The particular assignment of the domains here depends on the location of the vantage point. I identify the vicinity of Moscow as the canonical vantage point responsible for the conventionalized construal of Zakavkaz’ėe’s location.
Similarly to Zapoljar’e, the historical origins of the Russian state appear here as the assumed vantage point. I represent the hypothesized construal in Figure 34.

There are several other geographical terms, which employ an analogous mechanism of utilizing a geographical object as an anchor for establishing the boundary of a geographical area on the other side of it, e.g., Забайкалье Zabajkal’e ‘Transbaikalia’\(^{56}\), Закарпатье Zakarpat’e ‘Transcarpathia’\(^{57}\), Запорожье Zaporoz’e ‘Zaporizhia region’\(^{58}\), Зауралье Zaural’e ‘Zauralje region’\(^{59}\). Without going into specific details concerning the geographical features of these areas, it will suffice to say that all of them are identified in relation to the boundary drawn by a geographical object that has a very low width to length ratio, be it a lake (Zabajkal’e)\(^{60}\), a mountain range (Zakarpat’e, Zaural’e), or a river (Zaporoz’e). Note that English either uses the cardinal orientation reference system to denote these areas (e.g., South Caucasus, Western Siberia) or, more frequently, the Latinate prefix trans- (Transcaucasia, Transcarpathia), which denotes the idea of crossing an object and the location on the other side. The prefix trans- captures the construal of the Russian speakers perhaps in the most accurate manner, however, it is conceptually incompatible with the vantage point an English speaker from Western Europe or the United States would assume to conceptualize these areas, due to the differences in the Anglocentric geographical reference frame.

The proliferation of terms incorporating the ON-THE-OTHER-SIDE extension of za- with geographical entities, which constitute horizontally extended objects with a

\(^{56}\) The area adjacent to the eastern shore of the lake Baikal.
\(^{57}\) The area to the west of the Carpathian mountain range.
\(^{58}\) Literally, the area beyond the rapids. It denotes a region south of the portion of the Dnieper river in Ukraine that is known for its rapids. Note that the English official translation is of the Ukrainian language toponym.
\(^{59}\) Literally, the area beyond the Ural mountains; roughly corresponds to Western Siberia.
\(^{60}\) For instance, the width to length ratio of this particular lake is 0.125 (Galaziy, 1989).
sense of boundary, supports my earlier claim that the notion of boundary is indeed important for the conceptualization underlying the ON-THE-OTHER-SIDE extension in Tyler and Shakhova’s original network. There is, however, a significant difference in the construal profiled by the preposition and the prefix in relation to the role attributed to the search domain. Namely, as a noun prefix, za- does not indicate the location of a particular entity within the boundaries of the search domain, but rather profiles the search domain itself as the entity in focus. In other words, the search domain becomes the TR in this construal. This is indeed the conceptualization of, for instance, Zapoljar’e, which denotes the Polar Region as a conceptually salient area rather than any single point within it. The area beyond the LM extends virtually infinitely unless it reaches another boundary such as another massive landscape feature or a country border. In case of Transcaucasia, it is the boundaries of Turkey and Iran that define the southernmost extension of the region. It is clear that the nature of historical ties between Russia and the states in Transcaucasia on the one hand and Turkey and in Iran on the other play an important role in the overall conceptualization of the outermost boundaries of Transcaucasia. However, I will leave this aspect of discussion for now and simply note that the outermost boundary of the region in focus has a low salience and does not immediately contribute to the spatial scene profiled by the prefix za-.

Crucially, the semantics of the preposition za are much more tied to particular objects and their relation in space. Therefore, the search domain only maps out the general area, where the element in focus—the TR in the particular construal—is located. This is different from the construal introduced by the noun prefix za-, where the TR is the whole search domain. The difference in the semantics of the cognate preposition and prefix shows a general shift of salience in the conceptualization of the search domain from being only an identifier of the location of the TR (in the
use of the preposition za) to becoming the TR itself (in the use of the nominal prefix za-). At the same time, as the focus shifts from objects located within a search domain to the search domain itself, its mass-like quality becomes particularly prominent in the prefixal semantics. Within the whole reference frame, the search domain is delineated from the rest of the conceptualized frame by the LM, which serves as a boundary between the search domain and the negative domain. In the next subsection I show that it is this predictable but very significant change of the original spatial arrangement that motivates the bulk of the asperual use of the verbal prefix za-.

To recapitulate the main points in the discussion thus far, the semantics of the noun prefix za- incorporate a construal where a region in focus is the TR; it is defined by a horizontal boundary separating this region from the area containing the vantage point. The perspective of the vantage point is directed towards the boundary, traverses it, and ultimately reaches the region in focus. Unlike the preposition, the prefix za- highlights the area behind or beyond the LM as salient to the speaker’s conceptualization, rather than singling out a particular object within this area. The focus area evoked by the noun prefix za- is assumed to have a strong sense of spatial continuity (or, mass), which is limited by the LM on one of its sides, and in that it is different from the discreteness associated with autonomous (or, conceptually uniplex) objects spatially coordinated by the preposition za.

EXTENDING ON-THE-OTHER-SIDE TO THE VERBAL PREFIX ZA-: ASPECT, DETERMINACY AND BEGIN

Having articulated the construal mechanisms of all of the participants in this complex system, we are now ready to take on the main challenge of this work and specifically address the interaction between the semantics of grammatical aspect, peculiarities
of the class of Russian motion verbs, and the semantics of the verbal prefix za-. In
general, I claim that the internal and the relative reference frames, as they determine
the extension of the semantics of za-, also align with the perfective construal of the
determinate and indeterminate motion verbs. More specifically, due to inherently telic
nature of the determinate verbs, the semantics extension of za- within the intrinsic
reference frame is recruited to express the END meaning by means of the PURPOSE ex-
tension. At the same time, the atelic nature of the indeterminate motion verbs makes
it particularly well-suited for bounded regions comprising the on-the-other-side
extension. Here I will address the latter interaction.

Let us recall the conceptual foundations of indeterminate events and aspect as they interact with each other. First, indeterminate motion construal lacks any inher-ent sense of destination and is, therefore, considered to be atelic. At the same time,
there is a plexity distinction between imperfective and perfective indeterminates in
that perfective indeterminates are uniplex, whereas imperfective indeterminates are
multiplex. As far as the perceptual scanning strategy is concerned, sequential scan-
ing is employed for imperfective and multiplex construal, and summary scanning is
employed for perfective and uniplex construal.

How does the spatial scene invoked by za- in relative reference frame correspond
to the perfective construal of indeterminate verbs? If we extend the spatial scene into
the domain of time, we would have to identify a temporal scene divided by a boundary
into two domains, of which only one contains the TR. I interpret these two scenes
as two consecutive snapshots of a mover coming to motion (E₂) from rest (E₁). The
boundary is the LM signifying the transition between the two as the mover abandons
his state in E₁ in favor of engaging in the motion state in E₂. In other words, the
mover (TR) transcends the boundary (LM) to participate in motion (search-domain).
I represent the two time frames in Figure 35.
The important characteristic of both the negative space domain and the search domain here is inherited from the spatial scene of za- in that, while bounded, both of them have a strong sense of mass, such that no internal structure of the event is immediately recognizable for either state in E₁ or E₂. I propose that this kind of arrangement is responsible for the BEGIN meaning associated with indeterminate motion verbs prefixed with za-. The search-domain is reanalyzed as the event of motion, or E₂, such as walking, whereas the negative space domain is reanalyzed as the state qualitatively opposed to and temporally preceding E₂. In other words, just like in the spatial domain the negative space region constitutes a region that does not contain the TR in the spatial configuration, so in the temporal domain this region defines the range of the state, which preceded the TR’s engaging in the motion activity. The change of state inherent in the notion of starting a motion is effectively conceptualized as movement from one domain to another (cf. Dąbrowska (1996, p. 473): CHANGE OF STATE IS MOVEMENT FROM ONE CONTAINER/LOCATION TO ANOTHER). For instance, in (103) the fact that Sasha is engaged in the state of walking (E₂) is construed against the background of the previous state, where Sasha was not involved in walking, schematized as rest (E₁).
At the same time, unlike the noun prefix za-, the perfectivizing prefix za- assigns not only the search domain, but also the location of the mover within it. In that sense we can think of the TR in the perfective verbal construal as complex, consisting of the temporal domain, where the mover is to be anchored, as well as the mover himself. I would like to emphasize that the notion of location of the mover and his or her anchoring in this context has little to do with the actual spatial arrangement, but rather refers to the temporal arrangement, i.e. at what segment of time the mover is conceptualized to be. Worth mentioning here is also the understanding that this temporal arrangement is clearly grounded in spatial experience, but does not relate to any literal spatial arrangements in this event. For instance, Sasha is not necessarily conceptualized to leave the general spatial frame of reference when he starts walking; he may as well be construed as walking back and forth or around the observer. The semantic contribution of za- here, therefore, has very little to do with the location of the mover, but merely attenuates the temporally significant shift from rest to motion.

Now let us articulate the details of the mechanism responsible for this meaning pattern we have observed thus far. What in this conceptualization of a motion event is specific to both indeterminate construal and perfective construal and how do we account for the \textit{begin} interpretation? The notions of telicity, plexity, extension of speaker’s perspective, and perceptual scanning are to be explored in this respect.

First of all, I have identified indeterminate motion as intrinsically atelic. This quality is reflected in the fact that the motion event in (103) is indeed construed as having no intrinsic destination, i.e. Sasha simply started walking. The speaker commits to neither identifying any destination of his walking or that the walking will...
stop, when this destination has been reached. Rather, the motion is construed as a mass, an activity, or a collection of various trips\textsuperscript{61} ranging in time and length, but ultimately comprising a holistic construal of walking as an activity temporally bounded at the starting point. This is indeed the construal I argued for in the discussion of the semantics of the noun prefix \textit{za-}, where what is in focus is not a single element in the search domain but rather the search domain in general, as it is demarcated from the negative space domain by means of a boundary. In that sense, the motion profiled by indeterminate verbs under perfective construal is analogous to the notion of search domain in the context of spatial arrangement. It is, therefore, the focus of the construal of the motion event.

Second, indeterminate motion in perfective construal is uniplex. The uniplex quality here comes from recognizing the fact that the activity of walking is construed as a holistic gestalt and the particular trip segments are blurred providing for a uniplex interpretation. The uniplex quality of indeterminate motion in perfective construal here is closely linked to its atelic character, as both notions emphasize the idea that no identifiable internal structure contributes to the construal of the motion event that the mover engages in.

Third, in the discussion of aspect I have invoked the idea of distal perspective as being crucial for perfective conceptualization of events. Again, in the scenario with indeterminate motion verbs we observe that due to reduction of the extension of speaker’s perspective, the multiplex quality of indeterminate motion in imperfective construal is condensed, as is reflected in the fact that under perfective construal the event of motion is considered to be uniplex.

\textsuperscript{61}For a discussion of the range of meanings expressed by indeterminate stems see Section 5.3 on p. 147.
Finally, the fourth, and perhaps the most important facet of this complex conceptualization is the significance of perceptual scanning. A perfective construal presupposes that all of the composite temporal segments in an event are mapped onto each other—or compressed—with the last segment highlighted. In the context of indeterminate motion and the construal implemented by the prefix za-, there are only two distinct scenes representing the state of the mover, one pertaining to the event before engaging in motion $E_1$ and the other one pertaining to the event while engaging in motion $E_2$. The summary scanning strategy maps the two scenes, at $E_1$ and $E_2$, resulting in a compressed conceptualization as diagrammed in Figure 36. Crucially, of the two scenes the one in $E_2$ reserves particular salience in the compressed conceptualization, which I symbolize by highlighting the TR in red inside the domain of motion.

This particular arrangement is principal for understanding why indeterminate motion verbs denote BEGIN motion, when perfectivized with za-. Because the two scenes are mapped onto each other, the cognitive operation of summary scanning emphasizes the idea that change took place as we recognize that the location of the TR in the domain of time has shifted from rest to motion; this change is crucially
the difference between non-motion and motion, with the latter being in focus. That is, with summary scanning, we are in the position to have observed the TR’s shift from rest to motion, which is conventionally described as starting to move, or, for instance, *zaxdit*. It is clear, that in order to identify change, one scene—even if it is the scene in $E_2$—is insufficient. The change becomes prominent only when we conceptualize the two scenes in each other’s context as a unified representation of the whole event. Of the two scenes, it is the second scene that is in focus, which is why we do not conceptualize this event as ceasing to rest because of walking.

In this section, I have shown that the perfective construal of indeterminate motion evokes the general image schema of an atelic event, whose internal composure is
enveloped in uniplex conceptualization, as the speaker assumes a distal perspective and summary scanning. In the meanwhile, of the two frames of reference available to za- as a perfectivizing prefix, the relative frame of reference and the ON-THE-OTHER-SIDE extension associated with it are recruited for perfectivizing indeterminate motion verbs (see Figure 37). The construal of the prefix highlighting the location of a region in relation to a boundary in the spatial domain aligns with the atelic uniplex construal of indeterminate motion in the context of perfective aspect. The outcome of this remarkable conceptual integration is the meaning of BEGIN. In the next section, I offer an analysis of the END meaning, as I apply a similar procedure to the elucidate the interaction of aspect, the semantics of za-, and determinate motion verbs.

6.2.2 **Intrinsic frame of reference**

The motivations for semantic continuity between the meaning of the preposition za in the context of the intrinsic frame of reference and the perfectivizing prefix za-collocating with determinate verbs are more straightforward than in the discussion of indeterminate verbs and za in the relative frame of reference. This is largely due to the fact that the preposition in its extended senses within the in-tandem cluster demonstrates meaning patterns that are removed considerably further from the spatial domain than the extended meanings in the BEHIND-DEICTIC cluster. In fact, some of those meanings are so abstract that they evoke the notion of PURPOSE. Given the inherently telic character of determinate motion stems, I propose that the notion of PURPOSE from the domain of the preposition za informs the semantics of the perfectivizing prefix za-, as it is recruited to mark the perfective construal on determinate motion verbs.
Intrinsic frame of reference in the semantics of the preposition \textit{za}

The \textit{in-tandem} cluster is motivated by the intrinsic frame of reference, as the LM is assumed to have an inherent front-back segmentation. Because the speaker’s perspective is not necessary to identify the orientation of the LM, the speaker can be located practically anywhere in relation to the spatial scene to identify the relation between the TR and LM, as profiled by \textit{za} as long as the TR is located at the intrinsic back of the LM. Recall the scenario with a bike, which I present again in (104):

\begin{center}
(104) Велосипед \textit{за} машиной.
\end{center}

\begin{center}
\textit{Bicycle}^{TR}\text{-MON.SG} \text{ \textit{za} \textit{car}^{LM}\text{-INSTR.SG}.}
\end{center}

\begin{center}
\textquote{The bike}^{TR} \text{ is behind the car}^{LM}.
\end{center}

Given the unambiguous identification of certain parts of the car as being either front or back, the speaker calls upon a scenario, where the bike is located at the intrinsic back of the car; the speaker’s own location here in relation to the profiled scene is unimportant.

One of the major extensions of this construal is the \textit{in-tandem} sense, as identified by Tyler and Shakhova (2008). The main distinction of this sense from the protoscene is the idea that the TR is construed as oriented, while its orientation is informed by that of the LM, such that the TR and the LM aligned in the same direction. For instance, of the two entities involved in (105) both are animate. Sonia represents the LM that is intrinsically oriented. Sasha is the TR, whose orientation is aligned with that of the LM. The verb profiles a construal, where Sasha is following Sonia and Sasha’s motion presupposes the fact that Sonia is moving as well.

\begin{center}
(105) Саша \textit{шёл} \textit{за} Соней.
\end{center}

\begin{center}
\textit{Sasha}^{TR}\text{-NOM.SG} \text{ \textit{walk}^{PAST}.IMPERF-PAST.MASC.SG} \text{ \textit{za} \textit{Sonya}^{LM}\text{-INSTR.SG}.}
\end{center}

\begin{center}
\textquote{Sasha}^{TR} \text{ was walking behind Sonya}^{LM}. (Sasha was following Sonya).
\end{center}
Tyler and Shakhova note that the cluster of meanings deriving from the \textsc{in-tandem} configuration commonly involves an animate entity in the role of the TR as demonstrated in (105). The motivations for this extension include an entrenched experience of associating consistent front-back segmentation—and the concomitant quality of being oriented—with the notion of animacy and the ability to move. These three notions have a strong tendency of co-occurrence due to repeated human experience of observing animate TRs and LMs co-aligned in their orientation, as put forward by Hill (1978). That is, once the TR is perceived as intrinsically asymmetrical—i.e., having front and back—we can expect the notions of animacy as well as volition to come into the construal. This set of inferences enables the TR to be perceived as volitionally capable of orienting itself relative to the LM. The cognitive salience of the \textsc{in-tandem} configuration as proposed by Hill (1978) suggests then the TR would tend to adapt the direction of the orientation of the LM thereby aligning itself in the direction of the LM.

Additionally, the scene in (105) involves not only the recognition of the TR’s ability to orient itself given the orientation of the LM, but also a dynamic understanding of the situation, wherein both the TR and the LM maintain their spatial configuration in relation to each other while engaging in motion. This particular conceptualization is unavailable in the construal informed by the \textsc{behind-deictic} cluster, where the TR and the LM are presumed to not only be stationary but also devoid of intrinsic orientation. The dynamicity of the relative reference frame construal is clearly motivated by the fact that both the TR and the LM have intrinsic orientation and, therefore, have the ability to move. And, indeed, the notion of prototypical volitional motion as arising from human experience associates the direction of motion with the asymmetry in the configuration of the moving entity. Particularly, an entity capable of volitional motion tends to move in the direction that is accessible to its perceptual
system. This observation correlates with a basic experiential observation that animate entities tend to move in the direction they are facing\(^{62}\). Therefore, once the orientation is assigned to the TR in the IN-TANDEM cluster, there is a strong cognitive bias to assume that the motion performed by the TR will follow its orientation.

We can also note that apart from the intrinsic front-back segmentation Sasha as an animate entity makes a good candidate for being the seat of the vantage point. Further extensions along the IN-TANDEM branch reveal a fundamental shift in just that: the vantage point starts to be associated with the position of the TR on the scene. That is, while I have shown that the original construal based on the intrinsic frame of reference lacks any requirements about the location of the speaker’s perspective, the more remote extensions make the location of the perspective point much more explicit and specific. The FOCUS-OF-ATTENTION sense is an example of this class of extensions:

\[(106)\text{Саша смотрел за Соней.}\]
\[
\text{Sasha-NOM.SG watch.IMPERF-PAST-MASC.SG za Sonya-INSTR.SG},
\]
\['Sasha was watching Sonya.' (Sasha was baby-sitting Sonya).\]

\[(107)\text{Саша следил за новостями.}\]
\[
\text{Sasha-NOM.SG trace.IMPERF-PAST-MASC.SG za news-INSTR.PL.}
\]
\['Sasha was tracing the news.' (Sasha was following the news).\]

In (106) the TR Sasha is watching after Sonia, incorporating the understanding that the LM is indeed in focus of the TR. The nature of the LM attains an even more abstract level, as the example in (107) shows that the LM (‘the news’) does not need to be animate to be the focus of attention. What these two examples demonstrate is also the fact that the LM is not assumed to have any intrinsic orientation anymore,\(^{62}\)

\(^{62}\text{Of course, this is the prototypical arrangement, which excludes, for instance, some crustacean species.}\)
whereas the orientation of the TR here acquires a much more abstract nature, as Sasha does not have to be physically oriented in the same way as in the example, when he is following Sonya (see (105)).

Furthermore, while (106) has a strong association with the actual physical focus of attention, it already denotes something more than just a fixed gaze on the LM, suggesting a more abstract idea of care-taking. In (107) the focus of attention abstracts away even further from many physical aspects of the orientation, where the construal evokes the understanding that Sasha maintains mental focus on the news, which is far more complex in the pattern of behavior than maintaining a direct visual focus.

In other words, over these series of extensions of the original IN-TANDEM cluster, the conceptual fulfillment of orientation is divorced from the literal spatial representation and takes on agentive qualities of mental focus and volition. At the same time, the significance of orientation in the arrangement shifts from the LM to the TR, whose volitional intentions are expressed by means of an abstract orientation towards the LM.

With this consistent trajectory of semantic extension, we can expect that the ultimate development of the original IN-TANDEM cluster is to denote GOAL or PURPOSE. This intuition is substantiated in the next example:

(108) Саша пошёл за молоком.
Sasha-NOM.SG went.IMPERF-PAST-MASC.SG. za milk-INSTR.SG.
‘Sasha went for milk.’ (Sasha went to get milk).

Here the LM ‘milk’ lacks any sort of intrinsic orientation. Rather, it provides the purpose of Sasha’s activity, which conflates reaching the location of milk, the acquisition of the milk into Sasha’s possession, and achieving the purpose of the action. That is, the TR is intentionally oriented towards the goal element of the
event, which is located at the end of the path that would take him to the location of the LM (e.g., a grocery store). Acquiring a desired object provides a structuring image schema for the more abstract notion of achieving a goal. We can therefore speak of the relation profile of \textit{za-} in the \textsc{purpose} sense as reflecting the organizational role of the LM for the TR’s activity, which has a strong affinity with the \textsc{focus-of-attention} sense: the LM motivates a complex range of actions undertaken by the TR. The mover not only mentally focuses his attention on the LM, but also undertakes a motion that is intended to bring the mover into the proximity of the LM. Ultimately, the intention of this motion is to acquire possession of the LM, which consolidates in the \textsc{purpose} sense.

To summarize, across the extensions of the original protoscene, we recognize a shift of orientation from the LM to the TR, which is concomitant with the increasing tendency for the TR to be expressed by an animate entity. In that sense, the TR becomes not only animate but also noticeably agentive, whereas the LM—particularly in the \textsc{purpose} sense—attains the quality of a mental beacon, as a guiding element for the activity of the TR. This tendency in the semantic shift of the preposition \textit{za} is ultimately resolved in the \textsc{purpose} sense and, as expected, has a strong propensity towards the even more abstract notion of telicity. It is this notion that motivates the semantics of the perfectivizing prefix \textit{za-} in the context of perfective determinate verbs.

**Extending Purpose sense to the verbal prefix \textit{za-}: aspect, determinacy and end**

How does the spatial scene invoked by \textit{za-} in the intrinsic reference frame correspond to the perfective construal of determinate verbs? If we extend the \textsc{purpose} sense from the domain of the preposition to the temporal domain of the perfective marker, we
can identify the LM in the event construal as the destination of the motion event. The principle licensing this extension is an instantiation of the event structure metaphor, which draws a conceptual mapping between spatial destinations and abstract purposes (Lakoff, 1994) or goals. In other words, human conceptualization of activity goals is motivated by the embodied experience of attaining spatial destinations; in motion contexts, the parallelism between achieving the goal and reaching the destination is particularly salient, and is, indeed, at play with determinate motion verbs. That is, the TR undertakes the path necessary to arrive at the destination, and the destination draws a closure to the motion event as it is finalized. In other words, the mover (TR) incrementally approaches the destination (LM) at which point the motion terminates. I represent the scene in Figure 38.

Here the five snapshots, $E_1$ through $E_5$ represent the progress of the TR along the path to reach the LM, or the destination (marked with ‘D’ in the diagram). Unlike the interpretation of motion in the context of indeterminate verbs, here we can detect a sense of structural heterogeneity in the motion event such that at some segments, contained within the motion event, the TR is closer to the destination than at others. First of all, this construal is indeed consistent with the abstract notion of PURPOSE in the domain of the preposition, where the LM constitutes, what I
describe as the mental beacon of an activity\textsuperscript{63}. In the context of motion verbs, the PURPOSE is interpreted as a specific location, i.e. a destination, which is perhaps not as abstract as the PURPOSE sense of the preposition. However, a different facet of the conceptualization on the scene gains a more schematic representation and that is the idea that a motion event is assumed to have an intrinsic closure. The value of the closure is specific to context and in (109) equates to the garden:

\begin{verbatim}
(109) Соня забежала в сад.
Son-ja za-beˇza-l-a v sad.
Sonia-NOM.SG za.PERF-run\textsubscript{b}-PAST-FEM.SG in garden-ACC.SG.
‘Sonia ran into the garden.’
\end{verbatim}

We recognize that at the point where Sonia reaches the garden, not only does her path terminate of her but also motion event as a whole is perceived as finalized.

Second, the five snapshots call on a strong sense of change that is involved in the motion event. Note that this change is remarkably gradual—if not incremental—such that the position of Sonia can be traced across multiple snapshots, and the number of these snapshots can be virtually limitless depending on how granular in our conceptualization we want to be. This is very different from perfective construal of indeterminate motion, where only two snapshots are present in the conceptualization of an event, and the notion of change is associated with the TR coming from rest to engaging in a motion.

Now let us address the details of the mechanism responsible for this meaning pattern we have observed for determinate perfectives. What in this conceptualization is specific to both determinate construal and perfective construal and how do we account for the END interpretation? The notions of telicity, plexity, extension of speaker’s perspective, and perceptual scanning are again to be explored in this respect.

\textsuperscript{63}Here, again, we see a connection in the construal to the FOCUS-OF-ATTENTION sense.
First of all, I have identified determinate motion as intrinsically telic. This notion is reflected in the fact that the motion event in is construed as having an intrinsic destination, i.e. Sonia’s running has a clear destination, and when the destination is reached the motion is terminated. In this sense the destination element both determines the path of the mover, as well as marks the termination of the motion event. This construal bears a strong resemblance to the semantics of the preposition za- in the purpose sense, where the LM element guides the activity performed by the TR. In both the prefix and the preposition scenario, the TR is assumed to have a strong agentive quality, whereas the LM is construed as static and non-agentive. Also, in both scenarios the mover participates in an activity that brings the mover to the LM.

Second, determinate motion in perfective construal is uniplex. The uniplex quality here comes from recognizing the fact that Sonia’s running is a bounded event from the point where she started the motion and up to the destination. The separate motion cycles associated with the physiological action of running specific to human beings are blurred here as irrelevant for the construal. Rather, the action is perceived as accumulating over time as the mover progresses along the path bring Sonia to the destination.

Third, in the discussion of aspect I have recognized that distal perspective is crucial for perfective conceptualization of events. In the scenario with determinate motion verbs, we observe that due to distal perspective the multiplex quality of determinate motion recognizable under imperfective construal is compressed, such that perfective construal of the event of motion is considered to be uniplex. The notions of distal perspective and uniplexity are certainly closely related here.

At last, fourth, the significance of perceptual scanning is perhaps the most important facet of this complex conceptualization. Recall that a perfective construal presupposes all of the constituent temporal segments of an event to be mapped onto
each other with the last segment bearing exceptional salience. In the context of determinate motion and the construal implemented by the prefix \textit{za-}, there is a succession of temporal snapshots representing the gradual shift of the mover towards the goal from $E_1$ through $E_5$. The summary scanning strategy maps the five snapshots into a single construal resulting in a compressed conceptualization as diagrammed in Figure 39. Crucially, of the five scenes the one in $E_5$ retains its exceptional salience in the compressed conceptualization, which I symbolize by highlighting the TR in red as it reaches the destination.

This particular conceptualization determines the \textit{end} construal of perfective determinate motion verbs prefixed with \textit{za-}. I have demonstrated that the perfective construal attenuates the notion of change, as it provides immediate access to side-by-side evaluation of different temporal snapshots of an event by means of the summary scanning. Determinate motion verbs offer a scene, where the TR undergoes a noticeable shift in its physical location; by tracking the location of the TR across multiple time frames, the observer is capable of establishing the trajectory of the TR over time, which captures the extent of change brought about by the TR engaging in motion. This construal is strongly associated with the visual concept, which I believe is expressively captured by a multiple exposure image (as represented once again in Figure 40).
As I have claimed earlier, the visuals of this image—even if technically outside of the language domain—are strongly perfective. If we consider the motion facet in the hitting event, the drum in this image then represents the destination of the motion performed by the drumstick. By overlaying the snapshots from the progression of the locations of the drumstick necessary to hit the drum, we arrive at the same abstract conceptualization as we would with za-perfective determinate verbs: by means of summary scanning we observe change in the location of the TR; at the point where the destination has been reached, the change is over and, therefore, the motion terminates.

As I have shown in this section, for determinate motion in the perfective construal, the notion of telicity comes to forefront, as the motion event is considered to be uniplex with the internal discrete units blurred due to the distal perspective. This corresponds with the abstract PURPOSE sense arising from the IN-TANDEM cluster so that the inherent telicity of determinate motion stems associates with the abstract notion of PURPOSE reflected as a physical goal in the semantics of the prefix za-. The summary scanning maps the various stages in the progression of the TR towards the
destination highlighting the change, as the last stage is ascribed particular significance in the construal. The interaction of these notions is construed by the speakers of Russian as END.

Ultimately, I trace the specific semantics instantiation for each of the meanings in the BEGIN/END opposition to two reference frames, which structure the patterns of semantic extension of the original spatial protoscene of za/za-. I update the polysemy network proposed in Tyler and Shakhova (2008) to include the extensions, which

Figure 41: The extended polysemy network of za, adapted from Tyler and Shakhova (2008), showing prefixal extensions
constitute the aspectual contribution of za- to determinate and indeterminate motion verbs (see Figure 41).

6.3 Summary

The analysis here represents an insight into how the notions of aspect, determinacy, and semantics of za- come to denote BEGIN in indeterminate perfectives and END in determinate perfectives. The challenge here is to recognize the complexity of each of these notions on their own and provide a coherent account of how the various facets of aspect, determinacy, and semantics of za- interact with each other and bring about the BEGIN/END pattern. From the start, my approach has been informed by the assumption that the semantics opposition of BEGIN/END constitutes a discrete semantic island and can be analyzed as a self-reliant complex system of meaning patterns. The motivations for the polysemy of za- originate from within the system: the determinacy of motion verbs patterns with the semantic extensions of za- as abstract instantiations of its protoscene in the intrinsic and relative reference frames. The construals afforded by variously captured internal texture of motion events (described in terms of plexity, scanning, degree of viewer’s extension, and telicity) gravitate towards compatible sets of cognitive strategies, defining the aspectual opposition between perfective and imperfective events (described in terms of boundedness, scanning, degree of viewer’s extension, and focal point). Similarly, the perfective construal of determinate and indeterminate motion verbs pattern with suitable spatially and reference-frame motivated schemas in the semantic network of za-. The overall structure can be metaphorized as a combination of jagged puzzle pieces; I have approached the analysis as a task to reconstruct and motivate the shape of these pieces from study-
ing the overall structure and hypothesizing the best and most likely shapes and fitting arrangements.

In the remainder of the dissertation, I pursue the goal of confirming the hypothesized model by considering evidence from outside of the system confined system of za-perfective motion verbs. To do so, I consider prefixes other than za- in the same context of perfective motion verbs. My discussion first follows a theoretical exploration of prefix patterns in Russian. I then further substantiate my model with a corpus analysis of the patterns of prefix-preposition collocations in contexts expressing motion goals.
Chapter 7

Extending the Analysis of the Semantics of za-

7.1 Contrasting the Semantics of za- and Other Prefixes

My analysis from its beginning has been intentionally limited to the treatment of a very restricted subset of Russian aspectual phenomena. This approach has allowed me to focus on exploring the spatial motivations for the semantics of za- at a high level of detail. Particularly, I have elaborated on the semantic continuity between the prefix za- and its cognate preposition za, as well as the interaction of the intrinsic and extrinsic construals with the determinacy of verbs of motion resulting in the start/end interpretations of perfectivized stems.

However, the methodological approach of a purposefully narrow scope has its share of shortcomings. As my analysis has been focusing on one specific perfectivizing prefix, it has little to say precisely how za- is different from other perfectivizing prefixes. That is, while I may have been able to explore the mechanism of the multi-faceted construal interaction motivating the START/END pattern in determinate verbs—apart from a brief discussion in Section 3.1.1 on p. 60—I fail to show, whether other prefixes may exhibit the same effects on determinate stems, or why native speakers would use za- in this context over any other of the 22 perfectivizing prefixes. Ultimately then, in order to strengthen the claims made by my model, I need to situate the current findings in the context of perfectivizing prefixes as a class, whose members are systematically utilized to mark the perfective construal. Below I offer a preliminary
attempt to reconcile the semantics of za- with the semantics of other perfectivizing prefixes.

Methodologically, my treatment of za- thus far can be described as absolute in that it examines za- based on positive evidence of its semantics as viewed in and of itself. That is, I only consider context where za- occurs and provide reasoning as to why these contexts and za- are compatible. The way I intend to strengthen the analysis is by bringing in a relative perspective, where the negative evidence from prefixes other than za- is employed to delineate the semantics of za-. In other words, I will consider context where za- does not occur and provide reasoning as to why these contexts and za- are incompatible. This is the approach adapted in Tyler and Vyvyan Evans’ (2003) exploration of the semantics of the English prepositions. I want to emphasize that I do not view this task as a defining goal of the dissertation (accounts of the Russian prefixal system with various degrees of comprehensiveness can be found, for instance, in Boguslawski, 1963; Gallant, 1979; Janda, 1986; Schooneveld, 1978), but rather as an opportunity to gather supporting evidence for my model.

In the following paragraphs I introduce the notion of contrast sets and demonstrate its application to the semantics of za-. I observe the advantages and insights it yields, as I contrast za- with other prefixes. Particularly, I conclude that unlike v-, za- does not require destinations to be exclusively containers. Furthermore, given the patterns of the spatial contrast in the destination types selected by za- and vy-, the motivations of the END meaning, associated with za-determinate stems, can be traced not only to the intrinsic frame of reference—as I have originally maintained (Subsection 6.2.2, p. 205)—but also to the relative frame of reference, which I have originally attributed to exclusively inform the construal of za-indeterminates and “start motion” meaning (Subsection 6.2.1, p. 187).
7.1.1 Contrast sets

Tyler and Vyvyan Evans (2003, pp. 107–109) use the notion of contrast set to identify sets of prepositions, whose semantics form oppositions against various spatial schemas. This notion is based on the assumption that the form distinctions in language are symptomatic of differences in meaning, so that the members of a contrast set signal the conceptual dissection of the particular semantic domain. For instance, the scale of verticality is represented as a continuum between the English prepositions *up* and *down*. The two prepositions can then be defined as the opposites of each other, such that not-*up* suggests *down*, and vice versa.

Contrast sets are a particularly useful tool for disambiguating the distinction between two spatial particles that is not as clear as for *up* and *down*. For example, Tyler and Vyvyan Evans (2003) observe that although *above* and *over* describe spatial configurations, where the TR is located vertically higher than the LM, they contrast in whether or not the construal assumes a potential contact between the TR and the LM. *Over* profiles scenes, where the TR is within the potential reach of the LM, whereas *above* profiles scenes, where the TR is not within the potential reach of the LM. From this view then the difference between *over* and *above* relies on the two particles forming a contrast set, based on the functional element of proximity, even if in terms of verticality they evoke compatible spatial scenes.

Overall, for cases like *up* and *down*, as well as *above* and *over*, the semantics of one preposition in the pair is understood to be in direct contrast with that of the other. The advantage of contrast sets as an approach to semantics is that the hypothesized meaning of a member in a contrast set can be confirmed—and more clearly restricted—based on the semantics of its counterpart. That is, for instance, *up* can be defined not only in absolute terms, but also relatively, as the opposite of *down*.
Table 4: The contrast set of za- and po- for perfective verbs of motion

<table>
<thead>
<tr>
<th></th>
<th>VoM_D</th>
<th>VoM_I</th>
</tr>
</thead>
<tbody>
<tr>
<td>za-</td>
<td>END</td>
<td>BEGIN</td>
</tr>
<tr>
<td>po-</td>
<td>BEGIN</td>
<td>END</td>
</tr>
</tbody>
</table>

the same is true for above and over. Furthermore, in the context of Russian spatial particles, Tyler and Shakhova demonstrate, how our understanding of the semantics of the preposition za can be improved by contrasting it with pozadi, as the two form a contrast set based on the notion of proximity, where za requires the TR and the LM to be in the proximity of each other, and pozadi does not (Tyler and Shakhova, 2008; also see my more detailed account of this opposition on p. 24).

I have previously employed the notion of contrast sets in my discussion of the prefix po-. Particularly, in Subsection 3.1.1 on p. 60, I have identified prefix po- as participating in the contrast set with za- on the basis of the begin/end opposition across two classes of motion verbs. Recall that perfectivized determinate stems denote begin with po-, whereas indeterminate stems denote begin with za-. The converse relation holds as well; the end meaning is denoted by determinate stems prefixed with za-, and indeterminate stems prefixed with po-64. The matrix of the contrast set is represented in Table 4.

64The semantics of po-indeterminates have been described as “delimitative”: they evoke a construal of an action that occurred for some relatively short, possibly in definite, period of time (Dickey and Hutcheson, 2003; Flier, 1986). Even if telicity is irrelevant for delimitatives (Flier, 1986), as perfective verbs, they denote a construal of an action that is understood to have terminated, and this is the facet of their meaning that I believe participates in the contrast set with the begin meaning in za-indeterminates and po-determinates. I gloss their meaning as end to highlight the opposition it holds with the begin meaning associated with za-indeterminates and po-determinates.
The application of the notion of contrast set, however, can be extended to capture and generalize over other facets of the semantics of \textit{za-}. An important context where contrast sets can be beneficial, pertains to semantic differences among prefixes for each of the two classes of motion verbs. For instance, how does the meaning of \textit{za-} in perfective determinate stems contrasts with the meanings of other prefixes? Similarly, is there any semantic opposition that guides the distribution of prefixes and meanings associated with perfective indeterminate stems? Below I present a preliminary analysis of this issue, which I restrain to the class of prefixed determinate stems. A similar methodology can be applied for a treatment of prefixed indeterminate stems as well.

Let us start with the existing analysis of \textit{za-}-perfectives of determinate stems and identify potential problems with it. Currently, I define the semantic contribution of the prefix \textit{za-} to determinate motion verb stems as reaching the destination. I trace this meaning back to the \textit{purpose} sense, as developed in the prepositional use by Tyler and Shakhova (2008), and the way it interacts with the inherent telicity of determinate motion and perfective aspect. That is, in perfective construal, where the last stage of the event bears high salience, the \textit{purpose} sense of \textit{za-} combines with the notion of telos present in the semantics of the determinate stems to produce the conceptualization, where the TR has reached the goal of motion. The three domains contributing to the described conceptualization—aspect, determinate motion, the semantics of \textit{za—} all point to the last, and terminal, stage of the motion event.

It has been observed that while such definition may capture the semantics of \textit{za-}-determinate perfectives, it lacks the level of specificity necessary to distinguish it from other perfectivizing prefixes (A. Grønn, e-mail to the author, January 28, 2011; S. Dickey, personal communication, March 7, 2011). Indeed, if we recognize the inherent telicity of determinate motion as well as the effects of perfectivity on telic motion events, we would then need to acknowledge the fact that hypothetically
any perfectivized determinate motion stem would denote the state of reaching the destination—regardless of the semantics of the perfectivizing prefix. Particularly, I claim that the perfective construal involves summary scanning with the last snapshot in the chain of the states belonging to the specific event bearing a salience for the overall construal. In the context of motion events this entails that regardless of the concrete spatial circumstances of the motion event that may be introduced in the semantics of the preposition the perfectivized determinate stem would denote a final-ized motion event. The troublesome entailment of this proposition to my analysis is that just about any prefix—not necessarily za— is fully capable of denoting the END meaning I have been attributing specifically to determinate perfectives prefixed with za-. Therefore, it may appear as though my analysis of perfective za-determinates is suffering from an overgeneralization of the semantics of za-.

Since I attribute BEGIN/END semantic pattern in za-perfectivized determinate stems to the interaction of aspect, motion verb semantics, and za-, where all three domains are equally important, in order to maintain the methodological stance of my analysis I need to be able to show that za-, in fact, is meaningful in this triad, and its semantics are distinctive from those of other prefixes. This is the context, where the notion of contrast sets becomes particularly useful. By exploring the ways in which za-participates in the opposition with other prefixes when combining with determinate stems, I will be able to constrain the contexts of za-’s occurrence and refine my definitions of its semantics.

7.1.2 za- versus v-

One of the contexts, where za- appears to fail to come into a meaningful contrast with another prefix is motion events with destinations construed as a container. Particularly, za- and v- appear to be equally suitable as a perfectivizing prefix of determinate
motion verbs, when the destination is expressed by a prepositional phrase denoting containment (S. Dickey, personal communication, March 7, 2011). This pattern is demonstrated in (110) and (111):

(110) Соня забежала в сад.
Son-ja za-beža-1-a v sad.
Sonia-NOM.SG za.PERF-run-D-PAST-FEM.SG in garden-ACC.SG.
‘Sonia ran into the garden.’

(111) Соня вбежала в сад.
Son-ja v-beža-1-a v sad.
Sonia-NOM.SG v.PERF-run-D-PAST-FEM.SG in garden-ACC.SG.
‘Sonia ran into the garden.’

Sentences in (110) and (111) are very similar in that both prefixes—za- in (110) and v- in (111)—denote reaching the end of the trajectory leading to the garden, such that at the end of the motion event Sonia is located within the boundaries of the garden. The containment element of the meaning in both of these examples is introduced primarily by the semantics of the preposition v^65, which heads the prepositional phrase denoting the destination of this motion event (also note the identity of the English translations of these two examples). Is there a difference in the scenes profiled in these two sentences and if so, how can we account for it? The answer to this question will help us identify the semantic characteristic motivating the contrast between the two prefixes.

The first step in addressing this question is recognizing contexts that extend beyond the containment type of prepositional phrases denoting the spatial configuration of the destination. For instance, Shull (2003) shows that outside of containment-type destinations, za- is less selective about the spatial configuration of the destination.

^65Prefix v- and preposition v are cognates, as descendants of Commons Slavic *vъn, from *ъn Vasmer (1950).
(also see Valeeva, 2001), whereas \( v \)- demonstrates a strong preference for containment-type destinations. Therefore, prepositional phrases denoting contact with the LM—as represented in prepositional phrases headed by the preposition \( na \)—, or a location behind the LM—as represented by the preposition \( za \) — are only compatible with \( za \)-determinates, and not \( v \)-determinates, as I demonstrate in the following series of examples.

\[
\begin{align*}
(112) & \quad \text{Соня} \quad \text{забежала} \quad \text{на} \quad \text{лестницу.} \\
& \quad \text{Son-ja} \quad za-beža-l-a \quad na \quad lestnic-u. \\
& \quad \text{Sonia-NOM.SG} \quad za.PERF-run\text{-PAST-FEM.SG} \quad \text{on} \quad \text{stairs-ACC.SG.} \\
& \quad \text{‘Sonia ran onto the stairs.’}
\end{align*}
\]

\[
\begin{align*}
(113) & \quad \text{Соня} \quad \text{забежала} \quad \text{за} \quad \text{дом.} \\
& \quad \text{Son-ja} \quad za-beža-l-a \quad za \quad dom. \\
& \quad \text{Sonia-NOM.SG} \quad za.PERF-run\text{-PAST-FEM.SG} \quad \text{behind} \quad \text{house-ACC.SG.} \\
& \quad \text{‘Sonia ran behind the house.’}
\end{align*}
\]

\[
\begin{align*}
(114) & \quad *\text{Соня} \quad \text{вбежала} \quad \text{на} \quad \text{лестницу.} \\
& \quad *\text{Son-ja} \quad v-beža-l-a \quad na \quad lestnits-u. \\
& \quad *\text{Sonia-NOM.SG} \quad v.PERF-run\text{-PAST-FEM.SG} \quad \text{on} \quad \text{stairs-ACC.SG.} \\
& \quad \text{‘Sonia ran onto the stairs.’}
\end{align*}
\]

\[
\begin{align*}
(115) & \quad *\text{Соня} \quad \text{вбежала} \quad \text{за} \quad \text{дом.} \\
& \quad *\text{Son-ja} \quad v-beža-l-a \quad za \quad dom. \\
& \quad *\text{Sonia-NOM.SG} \quad v.PERF-run\text{-PAST-FEM.SG} \quad \text{behind} \quad \text{house-ACC.SG.} \\
& \quad \text{‘Sonia ran behind the house.’}
\end{align*}
\]

That is, the spatial configuration of vertical contact, as profiled by \( na \) in ‘onto the stairs’, is acceptable in (112), where the verb is prefixed with \( za \)-, but is unacceptable in (114), where the verb is prefixed with \( v \)-. Similarly, the position of Sonia behind the house at the end of the motion event, as profiled by the preposition \( za \) in ‘behind the house’, is compatible with the \( za \)-determinate in (113) but not the \( v \)-determinate in (115). This observation—as supported by Shull (2003) from the data elicited from
native speakers’ production—leads to two conclusions. First, it suggests that $\text{za-}$ subsumes some of the contexts specific to $\text{v-}$ and in these contexts the difference in compatibility of the two prefixes with the prepositional phrases is neutralized based on the nature of the spatial scene the latter profile (compare a similar observation in Shull, 2003). That is, the occurrence of $\text{v-}$-determinates constitutes a subset of the possible occurrences of $\text{za-}$-determinates; therefore, in the context of containment-type destinations the two appear to lack distinction, as in (110) and (111). Second, there is indeed an important distinction in the semantics of $\text{za-}$ and $\text{v-}$. Namely, if the prepositional phrases differ in the type of spatial scene they profile, which affects the acceptability of the sentences in (110)–(115), the compatibility of a prepositional phrase and a perfectivizing prefix is then motivated by the correlation of spatial construals for the two types of particles. In other words, the perfectivizing prefix and the preposition are required to profile compatible spatial scenes.

The next step is then to demonstrate how prefixes $\text{za-}$ and $\text{v-}$ are both compatible with containment-type destination, but only $\text{za-}$ is also compatible with the notion of contact and the BEHIND-relation. The key idea here is that while both prefixes co-occur with containment prepositional phrases, they—in fact—do not profile exactly the same scene in these contexts. If they did, we would have to claim that the two prefixes profile identical construal in some contexts but not others.

Recognizing the spatial components of the semantics of $\text{za-}$ and $\text{v-}$ allows us to discern the difference between (110) and (111) and account for the acceptability patterns in (112)–(115). Prefix $\text{v-}$, a cognate of the preposition $\text{v}$, profiles containment as the relationship between the TR of motion and the destination location. Both the prefix and the preposition constitute the most prototypical particles for the representation of containment in Russian (Shull, 2003).
Za-, on the other hand, profiles a spatial location that is at the end of the TR’s trajectory and is associated with the purpose (or goal) of the motion event undertaken by the TR. As such—and unlike v—it does not appear to define any limitations on the kind of spatial circumstances that need to be associated with the destination, as long as the location identified by the prepositional phrase denotes the goal of a motion event, not its source or path. Therefore, containment-type destinations denoting the goal of a motion event are compatible with the broad category of spatial arrangements required by za-.

What the two prefixes have in common is the fact that they are both goal-oriented. This is especially evident from Shull’s data: for all the prepositional phrases in the database, za- co-occurs with 90% of prepositional phrases denoting goal, and v-co-occurs exclusively with prepositional phrases denoting goal (Shull, 2003, p. 57). Therefore, in contexts where the prepositional phrase profiles a destination of the containment type, both prefixes are acceptable. However, while za- simply profiles reaching the destination, which may incidentally be a container, v-highlights the fact that the destination is a container. Therefore, in certain context, the difference between the two prefixes is not significant, and may not even be immediately perceived. However, the motivations for the use of either of the prefixes are determined by differing construals on the scene (whereas the scene itself may very well be the same). Presumably, the two construals diverge in regard to how salient the notion of containment to the whole motion event is for the speaker. It appears that v-determinates lend a high degree of salience to the notion of containment, as representative of the destination, which is further reinforced by the prepositional phrases explicitly denoting containment. Za-determinates on the other hand invoke a less specific construal.

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66 See my discussion in Subsection 6.2.2 on p. 205
67 See my discussion of possible acceptability of these prepositional phrases in Subsection 3.1.2 on p. 63.
of the spatial features of the destination merely offering a generic view of reaching it, while the prepositional phrase functions as a spatial specifier.

The prefixes *za-* and *v-* then can be understood to enter into a contrast set based on the notion of spatial specificity in regard to the spatial configuration of the destination: *za-* is non-specific, whereas *v-* is specific, requiring the destination to be a container. The notion of specificity provides the background against which *v-* and *za-* differ in their semantics and, hence, distribution. An important consequence of the notion of specificity as underlying the difference between the two particles is that, unlike the English *up* and *down*, whose clear-cut complimentary distribution is determined by the vertical axis, *v-* and *za-* may occur in contexts identical in many ways. It is the degree of specificity of the construal, however, that will determine, whether *za-* or *v-* is selected by the speaker. Finally, note that a similar relationship has been observed in the context of English spatial particles, which further supports the line of the proposed analysis. In particular, Tyler and Evans show that the English *over* and *above* appear to be freely interchangeable in contexts, where the proximity of the LM and the TR is not particularly relevant to the speaker’s construal of the spatial relationship between the TR and the LM (Tyler and Vyvyan Evans, 2003).

In this section I have demonstrated that *za-* and *v-* profile different construals. First, I have identified contexts, in which the two prefixes appear to lack any meaningful distinction. Next, I sought out contexts where the two differ in their distribution. I, then, observed the differences of the underlying construals to determine the motivation for the distribution of the two prefixes in the second set of contexts. Finally, I used my conclusions capturing the difference between *za-* and *v-* to argue that even in context, where they appear to be substitutable for each other, they, in fact, represent differing construals.
In doing so, I have shown that the end of motion construal I associate with za- in my initial analysis is capable of providing the necessary level of detail to show how it is different from v-. Furthermore, I have expanded Tyler and Vyvyan Evans’ 2003 methodological procedure of identifying contrast sets among prepositions by adapting it to the context of Russian prefixes, za- and v- in particular, and articulating the specific steps necessary for the procedure. The procedure of identifying a contrast set rests on the general idea of reevaluating contexts, where the distinction between the proposed members of a contrast set appears to be neutralized by drawing on the contexts, where this distinction is maintained. This procedure will prove to be particularly useful as I expand my analysis of the semantics of za- by contrasting it with other prefixes in the next paragraphs.

7.1.3 ZA- VERSUS OTHER PREFIXES

Although presently the intent of my dissertation is to focus on the semantics of za-, the discussion of the contrast between za- and v- highlights how regarding the paradigmatic context of a linguistic phenomenon can be beneficial for identifying its qualities. It shows that the discussion of other prefixes and their semantics in the context of motion verbs is necessary even if only one prefix were to be the center of my work. Following this line of reasoning I propose that the fleshed out analysis of za- would have to involve establishing the semantics of other perfectivizing prefixes in the system of Russian aspectual marking. There are two observations to be made in this regard. First, since I am primarily interested in instances where za- competes with other prefixes, certain prefixes will be more relevant to my analysis than others. Second, my treatment of the relevant prefixes would have to be limited to contexts, where za- directly competes with them. In other words, by bringing in the discussion of other prefixes in my analysis of za- I do not anticipate to provide an exhaustive
analysis of all perfectivizing prefixes in Russian as a system of aspectual marking, as it would be untenable in the light of the focus of my work.

As the main principle for the investigation of the set of prefixes semantically competing with za- I intend to employ the notion of contrast sets. Apart from being useful in distinguishing the differences in underlying semantics of the members of an identified set, this notion provides a solid ground for building up a framework of semantic oppositions. That is, by identifying contrastive elements in the semantic structure of the prefixes, we can approach the task of delineating the semantics of za- against the semantics of other prefixes systematically. Below I present a preliminary roadmap of the areas, where contrast sets are to be observed and explored. My discussion will be largely confined to the set of determinate motion stems.

There are a number of spatially motivated schemas underlying the semantics of prefixes that can be adapted in order to establish contrasting particles. One such schema is CONTAINMENT. As I have demonstrated, in combination with the more abstract notion of specificity it underlies the contrast between za- and v-.

The next schema classifies prefixes based on the component in the conceptualization of a motion event they highlight. Johnson (1987) identifies it as the SOURCE-PATH-GOAL schema, which is proposed to underlie the most basic human experience of motion events. Given their spatial origins, prefixes provide specificity to one of the three components of this schema. For instance, Shull identifies za-, do-, pri-, v-, pod- as GOAL prefixes; vy-, s-, ot-, u- as SOURCE prefixes; and pro-, po-, pere-, o(b)- as PATH prefixes (Shull, 2003, pp. 18–22; also see Ferm, 1990; Tolskaya, 2007). This tripartite structure can be employed to tease out the semantic differences of za- on the one hand from the PATH and SOURCE prefixes as classes, and on the other hand from the other prefixes within the GOAL class. Within the class of GOAL prefixes, we
have already seen that the contribution of the \textit{containment} schema and the level of its specificity as asserted by the speaker sets \textit{v}- and \textit{za}- apart.

Another important schema relates to the notions of viewpoint and deixis. Here, exiting or coming into the view of the observer servers as the background for distinguishing between \textit{za}- and \textit{vy}-\textsuperscript{68} Shull (2003) notes that in contexts, where the prepositional phrase denotes a location, which is visually inaccessible, or is situated behind another object, \textit{za}- marks leaving the observer’s view, as in (116), and \textit{vy}- marks entering the observer’s view, as in (117). While this opposition can be seen as representative of the more general distinction between the classes of \textit{goal} and \textit{source} prefixes of which \textit{za}- and \textit{vy}- are members (see previous paragraph), in Shull’s account the two prefixes are “consistently (without any exception in my data) paired” (Shull, 2003, p. 81).

\begin{equation}
\text{(116) Соня забежала за дом.}
\begin{tabular}{llll}
\text{Son-ja} & za-beža-1-a & za & dom. \\
\text{Sonia-NOM.SG} & za.PERF-run\textsubscript{0}-PAST-FEM.SG & behind & house-ACC.SG. \\
\end{tabular}
\end{equation}

‘Sonia ran behind the house.’

\begin{equation}
\text{(117) Саша выбежал из-за дома.}
\begin{tabular}{llll}
\text{Saš-a} & vy-beža-1 & iz-za & dom-a. \\
\text{Sasha-NOM.SG} & vy.PERF-run\textsubscript{0}-PAST.MASC.SG & from-behind & house-ACC.SG. \\
\end{tabular}
\end{equation}

‘Sasha ran out from behind the house.’

In this respect, for the contexts involving change in visual accessibility or being located behind another object, \textit{vy}- can be concluded to constitute a contrast set with \textit{za}-, where the two members participate in complementary distribution. Furthermore, \textsuperscript{68}Note that despite their phonological similarity, prefixes \textit{v}- and \textit{vy}- are not cognate or semantically related (cf. Vasmer (1950)).
at least to the extent that Shull’s corpus suggests, there appears to be no other prefixes that partake in this specific opposition. Given the clear spatial context motivating this contrast set between \(za\)- and \(vy\)-, it may prove particularly beneficial to look into the semantics of \(vy\)- as a source of evidence for the spatial arrangement claimed for the protoscene of \(za\)- here and the original analysis of the cognate preposition in Tyler and Shakhova (2008). Furthermore, as the semantics of \(za\)- in this context are guided by speaker’s perspective, conclusions about the mechanism underlying the contrast between \(za\)- and \(vy\)- may provide additional insights into \(za\)-’s extended meanings, which involve the notion of reference frame.

Finally, the importance of the notion of reference frame is once again relevant in the contrast set of pairs \(za\)- and \(vy\)- versus \(u\)- and \(pri\)-. Here I extend the original application of the notion of contrast set to second-order phenomena such that contrasted spatial particles participate in contrastive relations with another contrast set. For instance, in Figure 33, \(a\) and \(b\) constitute a first-order contrast set. Similarly, \(c\) and \(d\) also constitute a first-order contrast set. The two sets participate in a second-order contrast set, such that the first-order set \(\left(\begin{array}{c}a \\ b\end{array}\right)\) is contrastive with the first-order set \(\left(\begin{array}{c}c \\ d\end{array}\right)\). I propose that the described relation is likely to be found in contexts where spatial particles, e.g., \(a\) and \(b\), while contrastive with each other, share a common semantic component. This component provides grounds for contrasting \(a\) and \(b\) as a set with \(c\) and \(d\), as the members of the second set lack this particular component.

\[
\begin{pmatrix}
a & \cdots & c \\
\vdots & \ddots & \vdots \\
b & \cdots & d
\end{pmatrix}
\]

Figure 42: First-order and second-order contrast sets
For the two pairs, za- and vy- versus u- and pri-, the first element in each pair denotes leaving the observer’s perspective, whereas the second element denotes entering the speaker’s perspective. The important difference between the two sets of pairs concerns the scope of speaker’s perspective and deixis. u- and pri- provide construals, where the motion of the TR is oriented relative to the observer, as the deictic center such that u- marks moving away from the speaker and pri- marks moving toward the speaker.

\[
\begin{pmatrix}
za- & \cdots & pri- \\
\vdots & \ddots & \vdots \\
vy- & \cdots & u-
\end{pmatrix}
\]

Figure 43: Semantic opposition between four prefixes

In a scenario, where the speaker is in the room, the TR enters the room from the hallway in the construal of pri-, as in (118), and leaves the room into the hallway in the construal of u-, as in (119).

(118) Соня пришла в комнату.
Sonia-NOM.SG pri-PERF-walk-PAST-ACCEPTED.SG in room-ACC.SG.
‘Sonia came to the room.’ (Sonia entered the room by walking.)

(119) Саша ушёл из комнаты.
Sasha-NOM.SG u-PERF-walk-PAST-ACCEPTED.MASC.SG from room-GEN.SG.
‘Sasha left the room.’ (Sasha left the room by walking.)

The two scenes are schematically represented in Figure 44, where the arrows capture the construed motion of the TR for each of the two prefixes. Unlike pri- and u-, za- and vy- profile construals that are less committed to anchoring the deictic center with the speaker. The consequence of this quality is the fact that za- and vy- are employed to describe entering and leaving the room without the requirement that the
Figure 44: The scenario of entering the room as profiled by pri- and u-
speaker be present inside the room (see Figure 45). This suggests that the speaker’s 
reference frame has the scope over a wider spatial context than in the case of u- and 
pri-. In the example scenario then the speaker acknowledges the spatial dissection 
eexisting between the room and the hallway, but both of them are accessible within 
the speaker’s reference frame and therefore can serve equally well as the seat of the 
vantage point. With these consideration in mind, the extent of speaker’s reference 
frame is to be proposed as the motivating the contrast between za- and vy- on the 
one hand and u- and pri- on the other hand.

Another point to note in this regard is that, whereas the location of the observer 
in relation to the motion event does not matter for either za- or vy-, the construal of 
entering the room correlates with the prefix za- and the construal of leaving the room 
correlates with the prefix vy-. Therefore, the configuration of spatial bodies involved 
in the particular scene is assigned an important role for determining the distribution 
of za- and vy-. In my scenario, between the room and the hallway connected by the 
door, the room is selected as the goal destination for za- and the hallway is selected 
as the goal destination for vy-. Alternatively, from the point of view of production, 
when the room is assigned the status of the destination, za- is utilized to signal
Figure 45: The scenario of entering the room as profiled by za- and vy-; the multiple locations of the speaker-observer reflect the flexibility of the vantage point in these construals.

The corresponding construal of the motion event, as in (120), and when the hallway is assigned the status of the destination, it is vy- that is utilized to represent this construal, as in (121).

(120) Соня зашла в комнату из коридора.
    Sonia-NOM.SG za-PERF-walk-PAST-FEM.SG in room-ACC.SG. from hallway-GEN.SG.
    ‘Sonia walked into the room from the hallway.’

(121) Саша вышел из комнаты в коридор.
    Sasha-NOM.SG vy-PERF-walk-PAST-MASC.SG from room-GEN.SG. in hallway-ACC.SG.
    ‘Sasha walked out of the room into the hallway.’
The distribution pattern of the two prefixes is supported by the fact that the reverse assignment of goal destination yields questionable—if not unacceptable—construals:

(122)  
Соня зашла из комнаты в коридор.  
Sonia-NOM.SG za-PERF-walk-PAST-FEM.SG from room-GEN.SG in hallway-GEN.SG.  
‘Sonia walked into the hallway from the room.’

(123)  
Саша вышел в комнату из коридора.  
Sasha-NOM.SG vy-PERF-walk-PAST.MASC.SG in room-ACC.SG from hallway-GEN.SG.  
‘Sasha walked out of the hallway into the room.’

The motivations for this pattern likely stem from the human experience of destination as containers, and how they relate to motion events. Apart from the more immediate difference in that za- is a GOAL prefix and vy- is a SOURCE prefix, as examples in (120)–(123) demonstrate, the destinations, which tend to correlate to each of the two prefixes differ in their spatial configuration as well. Particularly, I hypothesize that, as a GOAL prefix, za- selects destinations which are not perceived as suitable for motion event scenes, e.g., a room, whereas vy- picks out destinations readily compatible with the idea of non-constrained motion, e.g., a hallway. More specifically, the notion of telic determinate motion, which presumes a line-like trajectory performed by the TR, is more compatible with spatial entities, which are capable of fitting such a trajectory. A prototypical hallway with its low width-to-length ratio
provides an appropriate spatial context for a prototypical telic motion event, since its spatial configuration resembles—as well as guides\textsuperscript{69}—the path of the TR.

Naturally, the two classes of destinations as correlating with the construals underlying za- and vy- are determined in relation to each other, such that in this particular scenario a prototypical hallway is suited better for a telic motion event than in a room. Likewise, a room would serve as a better candidate for a scene of a motion event, if contrasted with a closet inside that room (see Figure 46).

In this modified scenario (also represented in (124)), even though the destination of the motion event is still the room just like in (120) and (123), the act of moving from the closet into the room would be captured by vy-, not za-, resembling the construal in (121).

\textsuperscript{69}In a prototypical view of rooms and hallways as features of architectural design, hallways can be understood as materialized permanent paths providing guidance for reaching specific destination, such as rooms and offices. Za- and vy- appear to be picking up on this general knowledge as they are recruited to represent a variety of scenes.
This observation brings us to the general idea of the distinction commonly drawn between the concepts of “entering” and “exiting”, which are not necessarily specific to Russian. Spatial destinations are commonly conceptualized as containers. While every time we traverse between two containers, we can describe the moment of transition as both simultaneously exiting (one container) and entering (the other container), usually one of the two ways of describing the scene is employed. I propose that the selection of the construal depends on which of the two containers is perceived as the more spatially constrained in relative contrast to the one that more readily lends itself as a site of a telic motion event. If the container being exited is more spatially constrained than the one being entered, the overall motion event is construed as exiting, and vice versa: if the container being exited is less spatially constrained than the one being entered, the overall motion event is construed as entering. The contrast between za- and vy- in these contexts then relies on the speaker’s conceptualization of how the spatial features of locations involved in the given scene compare to each other. Of the two destination types, za- prefers goal containers, which are more likely to restrict the possibility of motion. Ultimately though, it is up to the speaker’s subjective perspective to determine how strongly a particular container confines motion, which is encoded linguistically in prefix selection.

70 This pattern, once again, does not appear to be specific to Russian. For instance, it follows the conventions for the placement of the English Entrance and Exit signs, where Exit signifies traversing to a less spatially constrained area than the one being exited. Compare the Russian terminology used in the identical context: Выход Vy-walk ‘Exit’, which incorporates the prefix vy-, as predicted by my analysis.
It is clear that a more exhaustive analysis of the observed pattern across za- and vy- is warranted. Particularly, more supportive evidence would be desirable for the proposed analysis of the “Enter”/“Exit” relation and the semantics of the two contrasting prefixes. The relation of za- and vy- as opposed to u- and pri- as two sets contrasting in their use of deixis is also to be further explored.

However, what this preliminary analysis has helped to highlight in the conceptualization of za- is the significance of the destination as the more spatially constrained entity. This conclusion provides an observation, which may prove to be an important element for further fleshing out my initial analysis of the nature of the contribution of za- in perfective forms of determinate motion verbs. Particularly, while I originally claim that the intrinsic frame of reference motivates the semantics of za- for determinate verbs of motion, it can be argued that the relative frame of reference contributes to the semantics of za-perfectives of determinate stems as well. I will explore this stipulation in the next section.

7.1.4 Relative frame of reference in za-perfectives of determinate stems

To recapitulate, in my discussion of the contrast between vy- and za-, I have observed that in the construal profiled by za- the spatial configuration of destination is construed as less suitable for motion. The termination of motion then can be viewed as the TR “entering” the domain of destination as the domain of path is abandoned. Therefore, the motion activity is strongly associated with the path domain, whereas the destination domain has a bias towards lack of motion. In that sense it is possible to identify the domain of motion and the domain of destination as qualitatively different, while pervasive in the conceptualization of determinate motion events.
Moreover, such view of a determinate motion event bears a very strong resemblance to the construal, which I have initially proposed to be motivating the semantics of za- in the relative reference frame for indeterminate verbs. Recall that for indeterminate events I identify the ON-THE-OTHER-SIDE sense of the preposition za as the spatial motivator for distinguishing between the domain of rest and the domain of motion. As two qualitatively different domains, they provide a conceptual background for the perfective construal of an indeterminate event, where the transition of the TR between the two is interpreted to denote BEGIN motion (Subsection 6.2.1, p. 198).

The discussion of the contrast between za- and vy- in the context of determinate motion has revealed that determinate motion as such can be conceptualized as consisting of two domains as well. For za-, it is the domain of path and the domain of destination which constitute the two components of its construal and, in contrast to vy-, the destination domain, as being more spatially restricted, presupposes the absence of motion. Therefore, the construal of za-, motivated by the relative frame of reference, can be applied not only to indeterminate motion verbs—as I have shown in my initial analysis—but also to determinate motion verbs (see the adjusted network in Figure 47).

The possibility of this line of extension for my analysis undermines the original clear-cut correlation between relative frame of reference and the BEGIN meaning versus the intrinsic frame of reference and the END meaning. If proven to be plausible, it will, however, strengthen my initial claims on the mechanism of the semantics of za-. First of all, given the contrast set with vy-, za-determinates can be unambiguously predicted to point to the termination of motion, since the destination domain is associated with spatial entities construed to be less suitable for motion. Second, the semantics of za-determinates can be accounted for by the extensions of the protoscene.
of za- in both the intrinsic and the relative reference frames. While it undermines the theoretical attractiveness of having the BEGIN/END opposition correlate exclusively on the basis of the intrinsic versus relative reference frames, it—in fact—brings important evidence of a strong spatial motivation for the END meaning. More specifically, in my initial analysis, I have relied on the PURPOSE extension of za within the relative reference frame as key for the END interpretation of perfective za-determinates. With the recent insight into spatial motivations for this meaning, it is possible to identify both frames of reference as reinforcing each other in their contribution to the END meaning in za-determinates. Presumably, the intrinsic frame of reference highlights the inherent telicity present in the determinate stems, as it invokes the notion of PURPOSE. At the same time, the relative configuration of spatial features of the path and destination domains, as interpreted in the relative frame of reference, biases the termination of the activity to be associated with its destination, not path.

However, this motivational expansion across the two frame references does not have to necessarily be one-sided. In fact, the strong telic component of the intrinsic reference frame may also be the BEGIN meaning of the perfective za-indeterminates. That is, the agentive, volitional qualities of a human or an anthropomorphised mover in the contexts of initiated motion can be reconceptualized as the bias of the mover against inactivity (or rest) and toward activity (or motion), which is different from non-animate entities affected by the inability to self-sustain motion. The motion can also be proposed to constitute the object of the mental focus of a volitional mover, indicating a close link with the FOCUS-OF-ATTENTION extension of the intrinsic frame of reference.

While a more detailed discussion of these proposals may be warranted, the “cross-pollination” of the BEGIN and END meaning from both reference frames should not be viewed as a weakness of this model. In fact, we may postulate that while each of the
meanings may have a primary motivating reference frame, the other reference frame provides additional motivation, a reinforcement and a conceptual solidification for the extension informed by a different viewing arrangement. I represent this updated—and final—adaptation of the original protoscope from Tyler and Shakhova (2008) in Figure 47, where solid arrows represent primary motivating extensions, and the dashed arrows represent secondary motivating extensions.
7.1.5 Conclusion

To conclude, what I hope to have shown in this section is that the notion of contrast set is indeed a very useful tool in extending and refining my initial analysis of za-. Its preliminary application already brings up a few important insights into the semantics of za-, which either confirm my initial analysis or provide evidence for its extension. Particularly, my treatment of the contrast between za- and v- confirms my earlier claim that za- is not strongly selective about the spatial arrangement profiled by the prepositional phrase (Subsection 3.1.1, p. 60). This idea is evident, when I observe that v- primarily selects containment type of prepositional phrases. Furthermore, as I contrast the construals of za- and vy- with determinate motion verbs, it becomes apparent that my earlier treatment of the END meaning can be also supported by spatial motivations in the relative frame of reference in the semantics of za-, while the BEGIN meaning may receive additional motivation from the telic component of the PURPOSE sense in the intrinsic reference frame.

The set of claims assigning to za- a lower selectivity for the type of spatial destination in contrast to other GOAL prefixes is evaluated in a comprehensive corpus study. However, before turning to experimental evidence, I would like to address one important component of za-’s semantics, which I have not discussed directly thus far.

7.2 The drop-by meaning

The drop-by meaning associated with za-determinates has been excluded from my initial discussion. At the same time, a number of treatments of the semantics of za- recognize it as one of the starting points for the exploration of its semantic network (Janda, 1986; Shull, 2003; Anna Andreevna Zaliznyak, 1995). Janda, in particular,
identifies, what she calls DEFLECTION as the central meaning of the prefix za- and derives the other meanings associated with za- in contexts of both motion and non-motion verbs from this meaning. I have offered my general critique of this approach, as I reviewed Janda’s seminal work on Russian prefixes in Subsection 2.2.4 on p. 34. Here I offer extended evidence and a more detailed discussion supporting my view.

My analysis avoids the discussion of the DROP-BY meaning in favor of what I consider to be the much more rigorous and class-general BEGIN/END opposition in motion verbs. First of all, the DROP-BY meaning is not attested for indeterminate motion verbs\(^{71}\), which significantly weakens its potential to be considered as the central component in the semantics of the motion verbs. Also, I have maintained that this meaning does not occur consistently across all determinate verbs of motion, and a good half of these verbs notoriously lack the DROP-BY meaning, for instance, за-полз za-crawl, за-лещ za-climb, за-плыл za-swim, за-брел za-roam. Furthermore, apart from very few other instances\(^{72}\), the DROP-BY meaning is not attested in the non-motion verbs perfectivized by the prefix za-, which constitute a total of 1593 stems in Zaliznyak’s morphological dictionary (Andrej Anatoljevich Zaliznyak, 2009).

Finally, Sokolova’s recent work exploring the novel and productive ways of aspectual marking in Russian shows that za- is one of the most productive prefixes (S. V. Sokolova, 2009). It is utilized to mark perfective aspect on verbs that have

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\(^{71}\)There is a class of secondary imperfective verbs derived from the motion-verb stems which denote a habitual DROP-BY meaning. The habitual component of their meaning is associated with the imperfective aspect. Three of them, за-ходит za-xodit’ ‘come by (habitually)’, за-летать za-letat’ ‘fly/run/come by (habitually)’, за-залязить za-laazit’ ‘crawl in (habitually)’, due to predictable phonological change are homonymous with the indeterminate perfectives denoting starting the motion. I maintain that this phenomenon is purely homonymous, and the two competing construal are necessarily resolved within context (Silina, 1982).

\(^{72}\)E.g., за-скочить za-leap colloquially denotes ‘drop-by for a very short period of time’.
recently entered the language and passed the bi-aspectual stage\textsuperscript{73}. It is also very productive in slang derivations, some of which overtake the more traditional derivational paradigms replacing another prefix. These four areas evaluate the centrality of the DROP-BY meaning based on its productivity and type frequency for the whole set of verbal stems, which combine with za-, and I take these arguments as strong evidence to look for the central meaning of za- outside of the immediate DROP-BY meaning.

However, the DROP-BY meaning still requires an explanation as I develop the analysis of the semantics of za- further. One of the motivations suggesting that this meaning needs to be considered is that it occurs in high-frequency motion verbs, such as за-йти за-walk, за-бежать за-run, за-лететь за-fly, and за-ехать за-drive, which make up the most frequently occurring subclass of za-determinates. Given the salience of these verbs, I cannot overlook the facet of their semantics reflected in the DROP-BY meaning, even if it does not appear to be productive for the rest of za-determinates. Also, the DROP-BY meaning has been shown to be among the first in the first language acquisition of the semantics of the motion verbs (Stoll, 2001), suggesting that the frequency effects play an important role in the acquisition of the full semantics network of determinate verbs, which may or may not be reflective of the centrality of the DROP-BY meaning in the adult population. Finally, as I support my analysis and situate it among other works devoted to the semantics of za-, I need to be able to account for the specific semantic phenomena associated with za-determinates.

\textsuperscript{73}Many of the loan-verbs in Russian are initially aspectually ambiguous such that the stem may denote either perfective or imperfective construal without the overt prefix marking. The aspectual interpretation is left to contextual resolution. However, as these verbs become more assimilated into the verbal paradigm in Russian, prefixation is gradually utilized to mark perfectivity overtly. E.g., мумифицировать mumifikirovati’ ‘mummify’, асфальтировать asfal’tirovati’ ‘lay asphalt’ have been fully assimilated and now appear with za- as the perfectivizing particle in dictionaries (S. V. Sokolova, 2009), more recent and less assimilated is документировать dokumentirovati’ ‘document; record’, whose occasional occurrence with za- has been attested (Glovinskaja, 2008).
that many of the authors take as exemplifying prototypical behavior of motion verbs and orient their analysis of the semantics of za- with the assumption that DROP-BY constitutes its central component.

While there are a few possible ways of exploring the motivations for the existence of the DROP-BY meaning, I aim to rely heavily on the fact that this meaning occurs only with high-frequency motion verbs and, therefore, the reason for the frequency of these verbs as well as its consequences may prove crucial to any meaningful account of DROP-BY. Furthermore, the line of analysis that I would like to further explore is grounded in the assumption of primacy of spatial motivations for the semantics of the perfectivizing prefix za-. In accordance with the rest of my analysis, I want to show that the DROP-BY meaning has its roots in the spatial configuration, where the TR is located behind the LM.

The recognition of the strong effects of embodiment on human cognition is particularly important in the context of motion verbs. As the kinds of activities that humans perform on a daily basis, a number of inferences and affordances can be identified for the high frequency motion verbs.

First of all, it appears that out of the 8 motion verbs the four that do demonstrate the DROP-BY meaning also systematically denote the fastest four manners of motion available to humans: зайти za-walk, забежать za-run, залететь za-fly, заехать za-drive. The affordances associated with the rapidity of motion biases a construal of motion events as capable of being completed sooner (unlike, roaming, for instance) and with less effort since it employs the most prototypical kinds of human motion (unlike the remaining swimming, crawling, or climbing). In this context, motion events may become temporally compressed such that, while the destination of a motion currently being undertaken holds its prominent status, the next destination can already be available and within the domain of speaker’s attention. In the context of a motion
event taking place within the scope of a large motion event—where the former event is understood as ‘dropping by’ on the way to the destination of the larger motion event—the subordinate motion event is particularly prone to temporal compression given the scale of the larger motion event. Therefore, the goal of the larger motion event receives less interference from the subordinate motion event, making the terminal goal accessible. Crucially, goals of both events are assumed to involve a location, which constrains determinate motion and is separate from the domain of path, where the actual motion activity is taking place (this observation closely follows my treatment of the spatial scene underlying determinate events, as presented in the previous section). Therefore, the DROP-BY meaning associated with the high-frequency determinate motion verbs reflects a conventionalized pragmatic interpretation, which in modern Russian has acquired the status of a separate but related meaning.

Note that za-fly as denoting the DROP-BY seme is consistently used in contexts, where it denotes a rapid motion event performed by a human being, rather than an entity capable of flying, as a colloquialism for za-walk or za-drive. I would argue that in the contexts involving the conceptualization of an actual flight, it merely denotes reaching the destination by means of flying, as the more general meaning for all eight determinate stems. This observation further confirms my view that it is the affordances arising from prototypical human motion that motivate the DROP-BY meaning.

The other important notion for the DROP-BY meaning is the conceptualization of motion events as affected by inertia. The treatment of inertia as a salient schema in mental representations has been employed in both formal semantics—the notion of “inertia worlds” in Dowty (1979)—and cognitive semantics—the MOMENTUM schema in Gibbs (2005)—suggesting its recognizability among semanticists at large. In its most abstract representation inertia is defined as informing the canonical or expected
progression of the course of action beyond the point that has been witnessed (Dowty, 1979). In that sense, non-motion telic events can be seen to demonstrate effects of inertia, e.g., cooking a meal, or eating an apple, where the goal of the action is conceptualized as the natural result of the event. In the context of motion verbs the notion of inertia become particularly salient, as, apart from the fact that it motivates the DROP-BY meaning in determinate verbs, which are telic (as opposed to indeterminate atelic stems), the very action of movement is saturated with the experiences of literal embodied interaction with physical inertia. For instance, in order to start moving, we need to overcome the inertia of the rest state. Similarly, once in motion, a certain effort counterbalancing the inertia of movement is required to slow down or come to a complete stop.

The DROP-BY meaning can then be conceptualized as a direct extension of the concrete physical and more abstract inferences attributed to the experience of inertia. For the overall telic event with the eventual terminal point, there is a strong sense of inertia in the direction of the final destination. Therefore, any deviations from the general trajectory are seen as temporary suspensions, as if released after a short period of time with the accumulation of inertia. This view of the conceptualization of DROP-BY acknowledges not only the fact that there is a sub-event of suspending the motion in order to reach a sub-goal, but, most importantly, the inference that after the secondary goal has been reached the motion is resumed and the final destination orients and guides its course. Once again, it is important to recognize the fact that it is the verbs expressing the more rapid and human-appropriate motion manners that demonstrate this construal. It can be hypothesized that due to the rapidity of the motion they denote, these verbs provide a schema, where the force of inertia is the strongest among all motion verbs. From this perspective, dropping-by is perceived as temporarily suspending the motion which is then necessarily released.
The advantage of the proposed account of the DROP-BY meaning is that it relies on basic spatially based inferences about human motion, which are embodied in everyday cognition. In this sense, my approach differs significantly from the treatment offered in Janda (1986) and Shull (2003). In particular, Shull relies on the notion of “deviance” as underlying the motivations for the DROP-BY sense. She suggests that deviance is a derivative of the more spatially based BEHIND sense in the semantics of za-, and as such lends itself to inferences of inaccessibility, unknown, unexpected and deviance from the norm. These inferences—apart from motivating the meaning of excess—situate the secondary goal as a deviation from the intended trajectory, which results in the DROP-BY meaning.

It is not difficult to observe certain similarities between the analysis presented here and in Shull. However, I believe there are a few important details that set them apart. First, Shull does not acknowledge physical and spatial motivations for this meaning, including the notion of inertia. Second, her analysis does not account for the fact that not all motion verbs denote the DROP-BY meaning. Her analysis would apply ubiquitously to the whole class of motion verbs and thus overgeneralize the appropriate predictions. Finally, while deviance can be a plausible construct in the exploration of the semantics of za-, it proves to be somewhat arbitrary in the applications of inferences and metaphorical extensions, as underlying the patterns of the semantics of za—it attempts to capture. For instance, if за-шёл в магазин za-walk to the store is to be accounted for as a representation of the deviance meanings associated with za-, then we would expect such inferences as “unfamiliarity”, “unexpectedness”, “deviation from norm”, since under Shull’s treatment they also motivate the meaning of EXCESS associated with za—via the extension through deviance. These inferences are clearly

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74Cf. Janda’s DEFLECTION. I provide a specific critique of this notion in Subsection 2.2.4 on p. 34.
absent from the contexts similar to this example, where the DROP-BY meaning is neutral and lacks any negative connotations. Therefore, if any model of the DROP-BY meaning of za- is to involve the notion of deviance, it should also provide an explanation of contexts, where its inferences apply, or a mechanism that would switch-off the negative connotations it carries with it.

Finally, by bringing physically and spatially motivated evidence into the discussion of the DROP-BY sense I maintain its compatibility with the rest of my analysis as relying on spatial, embodied motivations for the exploration of aspect, determinacy, and the semantics of za-.

7.3 Corpus study: za- and other goal prefixes

The goal of my analysis is to explore the motivations for the patterns in the distribution of the BEGIN/END meanings across za-perfective verbs of motion. As with many—if not the majority of—linguistic analyses the actual output of my work is a theorized stipulation about the kinds of mental representations that compel speakers to exhibit the observed patterns of use. An empirical verification of these stipulations is highly beneficial as a necessary step for further substantiating my analysis. In this section I focus on one specific aspect of my model of za-’s semantics, as I evaluate it in terms of an empirical approach. Specifically, I evaluate the END meaning of za-perfective determinate verbs of motion in the broader context of goal prefixes. That is, the end meaning I ascribe to one of the extensions of za- is a specific representation of the more general notion of reaching a goal in the motion event, which can be expressed by other prefixes and specified further by prepositional phrases. I employ a corpus study to explore the patterns of behavior of all goals prefixes. In particular, I observe the kinds of prepositions that goal prefixes tend to occur with.
to identify differences in the semantics of individual prefixes. Ultimately, I aim to demonstrate how za- differs from the rest of goal prefixes.

### 7.3.1 Background

Overall, my analysis follows the methodological paradigm of cognitive linguistics, which puts forward the Cognitive Commitment as an important research principle (Lakoff and Johnson, 1980). The Cognitive Commitment requires that linguistic analyses be compatible with the conclusions about human cognition from other cognitive sciences such as neuroscience, psychology, anthropology, philosophy, and computer science (Miller, 2003). In this sense, the framework of Cognitive Grammar, as developed in works by Langacker (1987, 2008) and Talmy (2000), which provides methodological underpinnings and guidelines for my analysis, is necessarily cognitively committed. It relies on the principles of cognition which are not specific to language, hence rejecting the idea of language modularity (Fodor, 1983), drawing on general perceptual and processing mechanisms of human cognition as a whole as motivations for structures observed in language. In the context of my work, it is the idea of the homologous status of the domains of time and space in human cognition—articulated by Talmy (2000)—which accounts for the attested parallelism in how both domains are reflected in language (Vyvyan Evans, Bergen, and Zinken, 2007; Gibbs, 2005; Johnson, 1987). Therefore, by grounding the semantics of za-perfective verbs of motion in the interaction between the mental representations of time and space my analysis adheres to the general goal of Cognitive Commitment.

However, the specific conclusions of my analysis have not been evaluated in relation to the actual mental representation in the speakers’ minds: the particular cognitive models of aspeccual distinction, the opposition of construal between determinate and indeterminate motion events as well as the network of meanings I propose for za.
and za- remain pure theoretical stipulations. This is indeed a major challenge to most research in theoretical linguistics, and has been discussed in relation to cognitive linguistics (Gibbs, 2007; Talmy, 2007). More specifically, in the context of spatial particles, Sandra and Rice (1995) (see also Pawelec, 2009, 2010) have argued that many lexical network analyses of prepositions in cognitive linguistics suffer from unclear methodology for the distinction of different meanings, which are theorized to populate the proposed semantic networks (cf. Janda’s dissatisfaction with her own analysis of prepositional senses as devoid of “any non-arbitrary way of determining what constitutes a submeaning” (Janda, 1986, p. 243)). While since then Tyler and Vyvyan Evans (2003) have proposed the Principled Polysemy Network Model with specific guidelines for establishing the central meaning of the particle and the inventory of theoretical notions to be employed in determining its semantic network, an established array of methods for empirical verification of these models is still lacking.

At the same time, a faithful adherence to the Cognitive Commitment presupposes a strong methodological appeal of converging evidence confirming the proposed theoretical models (Vyvyan Evans, Bergen, and Zinken, 2007; Valenzuela and Soriano, 2005).

The present level of experimental tools that can directly inform us about the mental representations in the brain is still very far from the specificity and detail that can be obtained in theoretical research. That is not to say, however, that some methods of empirically confirming theoretical conclusions have not been developed. Some of the proposed ways of gathering the evidence include experimental studies where subjects’ responses to stimuli are interpreted as either supporting or rejecting the hypothesized models (see, for example, Boroditsky, 2000; Casasanto and Boroditsky, 2008; Sandra and Rice, 1995). Another line of research has focused on testing out the cognitively based models of language phenomena through corpus analysis, where persistent oc-

The latter line of empirical research is particularly well-suited for uncovering patterns in authentic language use that can confirm my stipulations about the preferential profile of za-. Namely, as my preliminary discussion has shown (Subsection 3.1.1 on p. 60; Section 7.1 on p. 219), the spatial construal introduced by the prefixed motion verb and the semantics of the prepositional phrase must have some degree of configurational compatibility, but the degree of required compatibility may be different for different prefixes (Ferm, 1990; Valeeva, 2001; Vinogradov, 2001; Zolotova, 1973). For instance, while za- and v- may appear to denote very similar spatial scenes when attached to determinate motion verbs, za- tends to be less restrictive about the prepositional phrases it collocates with than v-, since v- requires prepositional phrases to express containers. Za-, on the other hand, accepts prepositional phrases of a wider range, namely, any destination that may restrict a directed, determinate motion, which includes containers as a superset of possible destinations. In that sense, za- is less specific in how it enforces its compatibility with prepositional phrases than v-.

The accuracy of this claim can be evaluated in a corpus study, which identifies possible prepositional phrase collocations for each prefix and measures their frequencies. That is, if we translate the proposed semantic pattern differentiating za- from v- to corpus frequency, we would expect to see za-perfective determinate verbs of motion:
(a) collocating with more types of prepositional phrases than v-perfective determinate verb of motion; and/or

(b) exhibiting frequencies spread out more evenly across the collocating prepositional phrases than v-perfective determinate verb of motion.

In other words, if the collocational profiles of za- and v- are categorical, we will see the pattern identified in (a): v- would collocate with fewer prepositional phrase types than za-. If these frequency profiles are less categorical and rather constitute distributional tendencies, we will see the pattern identified in (b): v- would have very high frequency of co-occurrence with some prepositional phrases and very low collocational frequency of co-occurrence with other prepositional phrases. Za-, on the other hand, would have a “smoother” collocation profile, where the differences in frequency between different collocating prepositional phrase types will be less drastic than for v-. Naturally, we can observe a combination of the two patterns, which ultimately would still point to looser prepositional phrase selectivity of za-, as compared to v-.

However, this is only a fragment of the prefix-preposition collocation patterns. Za- and v- represent only two prefixes that can be attached to determinate verbs of motion and express directed motion. Valeeva (2001) claims that up to 18 Russian prefixes can express a concrete spatial configuration of a motion event when attached to motion verbs, while Titelbaum (1990, p. 39) identifies at least 13 other prefixes that can combine with the stems of determinate motion verbs (see Table 6 on p. 256). Furthermore, in a comprehensive corpus study Ferm (1990) finds 11 different prepositions that can co-occur with prefixed verbs to express spatial scenes, but none of the prefixes co-occurs with all prepositions, some co-occur with more prepositions than others (the number ranges from 6 to 10), and many of the collocational patterns are unique (see Table 6 on p. 257).
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Table 5: Prefixation productivity in determinate motion verbs. ‘–’ does not form a prefixed derivation; ‘+’ forms a prefixed derivation. Adapted from Titelbaum (1990, p. 40); data for bresti ‘ford’ from its occurrence in the Russian National Corpus (Vinogradov Institute of the Russian Language and Poetics, 2012); glosses capture central meanings of prefixes.
The collocation between prefixes and prepositions is evidently ripe with different kind of patterns, reflecting a range of different motivating phenomena. It is also clear that both prefixes and prepositions collaboratively contribute to the construal of a motion event as specifiers of its spatial configuration. But whereas determinate verbs of motion seem to be rather consistent in their ability to combine with a wide variety of prefixes (half of them combine with iz-, none with raz-, and all with the remaining 15 prefixes, Table 5, p. 256), the prefix-preposition collocation is far less pervasive and consistent (Table 6, p. 257). What is the principle (or a set of principles) that determines which prefix can collocate with which preposition?

The question of prefix-preposition collocations has been addressed in a number of studies, although it is still far from being extensively researched. Overall, there are two general views on the prefix-preposition collocations: the doubling effect view, and the multiple valency view. The first view describes the pattern as a result of

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<td>9</td>
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</table>

Table 6: Prefix-preposition collocation patterns, adapted from Ferm (1990, p. 49)
the *doubling effect*, where the choice of the preposition is determined by the prefix such that the preposition must be semantically similar to the prefix (Vinogradov, 2001; Zolotova, 1973). Because many prefixes and prepositions are etymologically related\(^{75}\), the closest semantic ties exist between cognate pairs, and, therefore, in most prototypical cases the prefix-preposition collocation is “determined by the peculiar law of prefix-preposition doubling”\(^{76}\) (Vinogradov, 2001, p. 522), where the cognate prefix and preposition occur in the same sentence, hence the term “doubling”. For instance, in (125), the prefix *v-* co-occurs with the preposition *v*, and both of them denote the notion of entering a container-like location, the school. Similarly, in (126) *ot-* and *ot* combine to express the idea of Sasha’s running away from the fence.

(125) Саша \(\text{Саша-NOM.SG} \quad \text{в-бежал} \quad \text{в школу.} \)  
Sasha-NOM.SG \(v\)-beža-l \(v\) škol-u.  
‘Sasha ran \(\text{into}_{pf}\) the school (building).’

(126) Саша \(\text{Саша-NOM.SG} \quad \text{от-бежал} \quad \text{от забора.} \)  
Sasha-NOM.SG \(ot\)-beža-l \(ot\) zabor-a.  
‘Sasha ran \(\text{away}_{pf}\) from\(\text{from}_{pf}\) the fence.’

However, the doubling of prefix-preposition pairs is not limited to cognates, and extends to prefixes and prepositions that are semantically similar but are not identical in the phonological representation. Markovskaya (2007, p. 205) identifies this pattern as the Identity condition: “The verbal prefix corresponds to the type of the prepositional phrase it co-occurs with, where the type refers to the distinction between Goal and Source prefixes/prepositions”, which also applies to PATH contexts. This claim stems from understanding of spatial particles as specifiers of three components of

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\(^{75}\)See my discussion in Section 3.2 on p. 68 and Figure 6 on p. 75.  
\(^{76}\)”Выражение предложной зависимости от приставочных глаголов подчинено в русском языке своеобразному закону удвоения приставки-предлога…”
a motion act, captured in Johnson’s SOURCE-PATH-GOAL schema (Johnson, 1987),
where each particle identifies a specific spatial arrangement at either the SOURCE,
the PATH, or the GOAL of a motion event. All spatial particles, including prefixes and
prepositions, can then be classified according to which component of the SOURCE-
PATH-GOAL schema they specify. For instance, Shull suggest to identify za-, do-,
pri-, v-, pod- as GOAL prefixes; vy-, s-, ot-, u- as SOURCE prefixes; and pro-, po-,
pere-, o(b)- as PATH prefixes (Shull, 2003, pp. 18–22; also see Ferm, 1990; Tolskaya,
2007). A similar classification can be devised for prepositions (see Ferm, 1990; Tolskaya,
2007). The doubling effect predicts that the SOURCE prefixes will co-occur with
the SOURCE prepositions, the PATH prefixes will co-occur with the PATH prepositions,
and the GOAL prefixes will co-occur with the GOAL prepositions, as exemplified in
(127)–(129).

(127) Саша убежал из школы.
Sasha-NOM.SG away.PERF-run0-PAST.MASC.SG from
dscho-ly.
'Sasha ran awayPF fromPP school.' (SOURCEPF+PP)

(128) Саша пробежал мимо школы.
Sasha-NOM.SG along.PERF-run0-PAST.MASC.SG beside
shkol-y.
'Sasha ran pastPF the school.' (PATHPF+PP)

(129) Саша вбежал на сцену.
Sasha-NOM.SG up.PERF-run0-PAST.MASC.SG on scene-u.
'Sasha ran ontoPP the stage.' (GOALPF+PP)
The proponents of what I have termed the “multiple valency” viewpoint point out that the doubling effect captures only a part of the possible prefix-preposition combinations, and is a carryover from 19th century grammars, where it is accepted as a rule and never critically examined (Ferm, 1990, p. 11). They claim that the collocation patterns go beyond cognate pairs and the Identity condition and are capable of expressing complex spatial scenes simultaneously identifying more than one component of the SOURCE-PATH-GOAL schema (Apresjan, 1967; Ferm, 1990; Shull, 2003; Whibley, 1982), see examples (130) and (131). At the same time, Ferm (1990) is careful to note that the collocation patterns are not completely random.

(130) Саша in.PF Perf-бежал run0-PAST.MASC.SG from outside-GEN.SG.
    ‘Sasha ran in$_{PF}$ from$_{PP}$ the outside.’ (GOAL$_{PF}$ + SOURCE$_{PP}$)

(131) Саша away.PF Perf-бежал run0-PAST.MASC.SG in shade-ACC.SG.
    ‘Sasha ran away$_{PF}$ into$_{PP}$ the shade.’ (SOURCE$_{PF}$ + GOAL$_{PP}$)

It is clear that the two views differ as to how prefix-preposition collocation patterns are approached: whether it is a set of tendencies that is apparent from the intuitive evaluation of the more prototypical distributional tendencies (doubling effect), or a set of all possible prefix-preposition combinations that can be harvested by means of a corpus study (multiple valency). However, neither view attempts to weigh the proposed prefix-preposition collocation patterns in relation to each other and establish their relative salience. That is, both the doubling effect view and the multiple valency view, each in its own way, treat prefix-preposition collocations as a set of possible combinations and implicitly reject the rest of combinations as impossible. However, I am convinced that much more can be gleaned about the collocation patterns by not
simply observing whether a certain prefix-preposition collocation is possible, but by also looking into which of the possible collocations are more salient than others. In fact, I believe it is these preferential tendencies that motivate the semantic distinction between prefixes za- and v-. To return to my earlier discussion, I hypothesize that za-perfective determinate verbs:

(a) collocate with more types of prepositional phrases than v-perfective determinate verb of motion; and/or

(b) exhibit frequencies spread out more evenly across the collocating prepositional phrases than v-perfective determinate verb of motion.

While item (a) may be answered to a certain degree of accuracy by either the doubling effect view or the multiple valency view, neither of them can meaningfully address item (b). And, indeed, while prefix-preposition collocational patterns have been evaluated in corpus studies, these studies have been limited to identifying the extent of multiple valency (Ferm, 1990; Grigorjan, 1984; Nikitina, 2010; S. V. Sokolova and Lewandowski, 2010; Vanjugina, 2008). A study by (Shull, 2003) goes beyond simply identifying possible collocations and records the relative values of various constructions expressing spatial relations, including prefix-preposition collocations. However, Shull’s corpus is compiled from naturally elicited descriptions of animated clips depicting various motions, which were preselected by the researcher herself and do not reflect frequency of actual use. Therefore, to my knowledge there is no study that has specifically attempted to quantify the patterns of prefix-preposition coordination in naturally occurring language.

I propose to start quantifying the patterns of prefix-preposition collocation on the basis of a corpus study of naturally occurring discourse in the Russian National Corpus by focusing on spatial contexts with the event expressing a GOAL-oriented motion.
For the purposes of this study I define these events as comprised of a determinate motion verbs, a prefix denoting GOAL and a prepositional phrases denoting GOAL. The choice of GOAL motion is determined by its relevance to the overall topic of my dissertation. As a GOAL prefix, za- competes with other four GOAL prefixes in the expression of motion events in determinate verbs of motion, v- ‘in,’ do- ‘up to’ (perspective off-stage), pod- ‘up to’ (proximal to deictic center, deictic center at the speaker’s location), pri- ‘to’ (neutral to proximity, deictic center at the speaker’s location), as they collocate with prepositional phrases denoting GOAL. Another reason for selecting GOAL prefixes is the fact goal is expressed more consistently and explicitly than other components of the SOURCE-PATH-GOAL schema Ferm, 1990; Filip, 1999; Talmy, 1988, which not only ensures that I can gather a sufficiently-sized corpus, but also suggests that the conclusions will reveal patterns about the most privileged spatial configuration within motion events. What I want to achieve in this corpus study is to evaluate my claims about the notion of specificity previously and their distributional implications as defined in (a) and (b) that differentiates za- from v- and presumably other GOAL prefixes. In this way, I want to explore if these five prefixes have individual distributional profiles of collocations with prepositions, even if they all refer to the notion of GOAL in the motion event schema. I adapt the earlier formulation of the claims to the following set of hypotheses for all GOAL prefixes:

(I) Generally, in a corpus of naturally occurring language, among five GOAL prefixes, patterns of prefix-preposition collocation are not random.

(II) Za- has a less selective collocational profile than other GOAL prefixes.

(i) Za- collocates with more types of prepositional phrases than other GOAL prefixes.
(ii) Za- collocates more evenly with prepositional phrases than other GOAL prefixes.

### 7.3.2 Corpus Design

The scope of corpus focuses on the most prominent structure in the verbs of motion, which involved determinate stems prefixed with GOAL prefixes. There are a few observations to be made in this regard. First, determinate motion verbs have been shown to primarily express a wide variety of spatial scenes, as opposed to indeterminate stems, which tend to elicit more extended and metaphorical meanings of prefixes (e.g. za-begat’, ‘begin to run’) and combine with far fewer prefixes, as represented in Table 13 on p. 285 (also see Dickey, 2010; Janda, 2010; Shull, 2003; Titelbaum, 1990; Tolskaya, 2007). As my initial corpus analysis shows, indeterminate motion verbs in many instances are also less frequent than determinate counterparts, which limits the ability to gather a balanced (i.e., equal number of occurrences) representation of all verbs. The corpus contains seven determinate verb of motion (see Table 8). The verb bresti ‘ford’ was excluded because its frequencies for many of the prefixes are too low. Additionally, while I did record frequencies for each of the seven verbs specifically, my present analysis disregards the differences in distribution between individual stems, and instead the frequencies of prefix-preposition collocations are evaluated for all motion verbs in bulk.

The corpus contains 100 sample sentences of seven determinate motion verbs in combination with five GOAL prefixes as they co-occur with prepositional phrases denoting GOAL, totaling 3,500 occurrences (Table 8). It was gathered from the Russian

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77 A combination of the negative particle ne ‘not’, and the prefix do- ‘up to’.
78 A productive marker of the superlative degree in adjectives.
<table>
<thead>
<tr>
<th>Preposition</th>
<th>Prefix</th>
<th>Meaning</th>
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<td>bez</td>
<td>—</td>
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<tr>
<td>v</td>
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<td>‘in’</td>
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<td>—</td>
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<td>vy</td>
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<td>‘for’</td>
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<tr>
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<td>‘up to’</td>
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<tr>
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<td>za-</td>
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<td>‘out of’</td>
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<td>krome</td>
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<td>‘between’</td>
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<td>niz-</td>
<td>‘down’</td>
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<td>—</td>
<td>raz-</td>
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<td>—</td>
<td>*re-</td>
<td>‘re-’</td>
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Table 7: Russian prepositions and prefixes (English glosses represent the common meaning of the cognate prefixes and preposition and exclude extensions, which may be different for prefixes and prepositions; when the two meanings diverge, preference is given to the prepositional meaning); the last three prefixes are non-native

264
National Corpus (RNC, Vinogradov Institute of the Russian Language and Poetics, 2012) by using the built-in search tool with the random sampling option of the output. Although the Russian National Corpus incorporates over 364 million words, as verbs in general have lower frequency counts than nouns, the selection of a sub-corpus had to accommodate a reasonable amount of samples for specific occurrences, which in some instances proved to be problematic. Where RNC was insufficient, I supplied data from the Leeds collection of Internet corpora for Russian (Sharoff, 2011). If the Leeds corpus was insufficient, I supplanted the data with Google search (Google, 2012) of all possible inflected forms for every verb and sought out contexts with prepositional phrases. Table 8 summarizes the structure and sources of the corpus, the numeric representation in the cells shows the origin of the data in the following format: $RNC^{Google}_{Leeds}$. As this table shows, the majority of the data in the corpus comes from the RNC, and it is only plyt’ and lezt’ that are significantly affected by the other two corpora. Nonetheless, it is important to acknowledge the possible discrepancies this may have caused for the study corpus. It is clear that the part of the corpus harvested from Google searches may be qualitatively different from the data found in the RNC, as genre representativeness, search context, and randomization of the output could not be determined in the same way. Particularly, as entries in Google queries do not carry genre specification, the representativeness of these entries is different from the carefully curated ratio of various genres selected for the RNC. Furthermore, due to lack of part of speech tagging, prepositional phrases could not be specified as a part of the query and instead were manually identified in the output of all contexts with motion verbs. Finally, the sentences from Google-query results were recorded in the order they appeared, and therefore the results that appeared earlier in the query output (i.e., first few pages of matches) were much more likely to be included in the study corpus than the results appeared later (i.e., the last pages of
<table>
<thead>
<tr>
<th>Verb stem</th>
<th>v- to</th>
<th>do- to</th>
<th>za- behind</th>
<th>pod- to</th>
<th>pri- to</th>
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<tr>
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<td>99&lt;sup&gt;0&lt;/sup&gt;&lt;sub&gt;1&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Table 8: Prefixation matrix of motion verbs in the corpus, the numeric representation corresponds to the source of data: *RNC<sup>Google</sup><sub>Leeds</sub>* (Google, 2012; Sharoff, 2011; Vinogradov Institute of the Russian Language and Poetics, 2012)

matches). Since the ordering of results in Google queries follows “best match” of the queried string, the sentences in this list (as gathered to fill in the missing entries of the 100-sentence goal for each prefixed verb) may bear some artifacts of best-fitting algorithm and potentially disadvantage results or result types that would otherwise be more prevalent in the RNC. The precise nature of such issues and its effects on the observed prefix-preposition collocation patterns should be explored in further studies.

A number of decisions were made in relation to what data was considered relevant for my corpus. First, it was necessary to acknowledge that the search for relevant prepositional phrases was not be limited to post-verbal contexts. Due to a relatively unconstrained position of the prepositional phrases in Russian, prepositional phrases following (132) as well as preceding (133) the verb were queried for and recorded.
(132) Перед поездкой в Италию, в конце 1964 года, она по делу заехала к Эренбургу.

Before her trip to Italy, at the end of 1964, she visited Erenberg for business.

(A. Najman. Rasskazy o Anne Axmatovoj (1986-1987))

(133) Мне еще в два места заехать надо.

‘I need to stop by two more places.’ (A. T. Averčenko. Mopassan. (Roman v odnoj knige) (1912-1914))

At the same time, the range of prepositional phrases denoting GOAL was limited to clear spatial goals, which excluded more abstract uses of prepositions with the goal sense. For example, in (134) it is the light that attracts the moth and causes it fly towards the light source. The use of preposition na- here extends beyond its primary use as denoting a contact with surface with support against gravity, in many ways similar to the English ‘on’, and was therefore excluded. Similarly in (135) the use of za has a clear goal sense, as it co-occurs with the noun ‘help’; as an abstract extension of the basic spatial ‘behind’ meaning of za-, this sentence, too, was excluded from the corpus.

(134) На свет настольной лампы через форточку.

(A) Na svet nastol’n-oj lamp-y čerez fortočk-u.

At the same time, the range of prepositional phrases denoting GOAL was limited to clear spatial goals, which excluded more abstract uses of prepositions with the goal sense. For example, in (134) it is the light that attracts the moth and causes it fly towards the light source. The use of preposition na- here extends beyond its primary use as denoting a contact with surface with support against gravity, in many ways similar to the English ‘on’, and was therefore excluded. Similarly in (135) the use of za has a clear goal sense, as it co-occurs with the noun ‘help’; as an abstract extension of the basic spatial ‘behind’ meaning of za-, this sentence, too, was excluded from the corpus.

(135) Заехать

(A) za-exa-t’
ночная бабочка.
ночнaя бабoчк-a.
night-FEM.NOM.SG butterfly-FEM.NOM.SG

'A big moth flew at the tablelamp light through the window.' (Ksenija Jaxtonova. Smjatenie Anastasii (1996-1998))

(135) ...убедили руководство Белого
...убеди-l-i rukovodstv-o Bel-ogo
...convince-PAST-PL administration-ACC.SG White-MASC.GEN.SG
дома подождать: отступники сами
dom-a podožda-t': otstupniki sami
house-GEN.SG wait-INF: defector-NOM.PL themselves

'...[They] convinced the White house administration to wait: the defectors will crawl back for help by themselves.'

Finally, most of the non-literal uses of the verbs were excluded. For instance, za-letet’ apart from denoting a motion event by flying (literally, ‘fly in’) is also used in slang expressions with the meaning ‘to get into an unpleasant or undesirable situation’. Also, za-jti, literally ‘za-walk’, occurs in the construction ‘reč’ za-šla o...’, which is a remote extension of the spatial meaning of the verb denoting a communication event (136).

(136) На встрече речь зашла
Na vstreč-e reč’ za-š-l-a
On meeting-PREP.SG speech-NOM.SG za-PERF-walk-PAST.FEM.SG

‘At the meeting we were talking about the new administration.’

268
7.3.3 Data

The corpus revealed 7 attested types of prepositional phrases that co-occur with motion verbs prefixed with GOAL prefixes (Table 9).

<table>
<thead>
<tr>
<th>Pf-Verb&lt;sub&gt;Motion&lt;/sub&gt;</th>
<th>do 'up to'</th>
<th>k 'to'</th>
<th>mezhdu 'between'</th>
<th>na 'on'</th>
<th>pod 'under'</th>
<th>v 'in'</th>
<th>za 'behind'</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-V&lt;sub&gt;M&lt;/sub&gt;</td>
<td>673</td>
<td>15</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>pod-V&lt;sub&gt;M&lt;/sub&gt;</td>
<td>0</td>
<td>601</td>
<td>0</td>
<td>6</td>
<td>78</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>pri-V&lt;sub&gt;M&lt;/sub&gt;</td>
<td>1</td>
<td>308</td>
<td>0</td>
<td>113</td>
<td>2</td>
<td>274</td>
<td>2</td>
</tr>
<tr>
<td>v-V&lt;sub&gt;M&lt;/sub&gt;</td>
<td>0</td>
<td>18</td>
<td>1</td>
<td>105</td>
<td>7</td>
<td>568</td>
<td>1</td>
</tr>
<tr>
<td>za-V&lt;sub&gt;M&lt;/sub&gt;</td>
<td>2</td>
<td>155</td>
<td>0</td>
<td>93</td>
<td>41</td>
<td>375</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>676</strong></td>
<td><strong>1097</strong></td>
<td><strong>1</strong></td>
<td><strong>320</strong></td>
<td><strong>128</strong></td>
<td><strong>1239</strong></td>
<td><strong>39</strong></td>
</tr>
</tbody>
</table>

Table 9: Frequencies of prepositional phrases in the corpus for all motion verbs

I used R software environment (Team, 2011) to implement statistical analysis of the data. The expected values show a wide diversity in distribution profiles for prefixes and prepositions. Because of only one occurrence in the corpus, meždu was excluded from the statistical analysis of the occurrence frequencies. The p-value shows significance in the distribution, while Cramér’s V ($\phi_c$) allows us to gauge the strength of association for this distribution and significance without possible effects of the sample size (Arppe, 2008, p. 86; Baayen, 2008). With 0.1 value being the smallest and 0.5 value and beyond representing a large effect (J. Cohen, 1998), at $\phi_c = 0.6081882$ we can conclude that the association in the distribution between prefixes and prepositions is very strong.

To examine the degrees of associations for individual contributions of prefix-preposition collocation we can consider Pearson’s residuals. The positive value represents a preference for the collocation while a negative value represents a dispreference for a particular collocation. The values under 3 in both directions are considered to show insignificant preference (Arppe, 2008, p. 83). Many of the prefix-preposition
Table 10: Expected values for prepositional phrase frequency in the corpus for all motion verbs; \(X^2 = 5177.02, \text{df} = 20, \text{p-value} < 2.2\times10^{-16}, \phi_c = 0.6081882\)

<table>
<thead>
<tr>
<th>Pf-Verb\text{Motion}</th>
<th>do</th>
<th>k</th>
<th>na</th>
<th>pod</th>
<th>v</th>
<th>za</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-V\text{M}</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
<tr>
<td>pod-V\text{M}</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
<tr>
<td>pri-V\text{M}</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
<tr>
<td>v-V\text{M}</td>
<td>135.0454</td>
<td>219.1492</td>
<td>63.92684</td>
<td>25.57073</td>
<td>247.5167</td>
<td>7.791083</td>
</tr>
<tr>
<td>za-V\text{M}</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
</tbody>
</table>

Table 11: Pearson residuals for prepositional phrase frequency in the corpus for all motion verbs

<table>
<thead>
<tr>
<th>Pf-V\text{M}</th>
<th>do</th>
<th>k</th>
<th>na</th>
<th>pod</th>
<th>v</th>
<th>za</th>
</tr>
</thead>
<tbody>
<tr>
<td>pri-V\text{M}</td>
<td>-11.54322</td>
<td>5.976486</td>
<td>6.121839</td>
<td>-4.665139</td>
<td>1.659637</td>
<td>-2.077235</td>
</tr>
</tbody>
</table>

collocations show significant positive and negative values (most significant positive values highlighted in Table 11). However, za- shows a narrow range of residuals, between \(-11.45723\) for do and \(9.378967\) for za, second only two the residuals we find in pri-, with residuals between \(-11.45723\) for do and \(6.121839\) for na and comparable values for the residuals between the most extreme points. Overall, the highest positive association values between prefixes and prepositions tend to register between cognate pairs of prefixes and prepositions: do-/do: 46.24228; v-/v: 20.370567; za-/za: 9.378967. Pod-/pod pair also exhibits a high positive association value of 10.353534, but it is second to the pod-/k collocation with the value of 25.754708.
7.3.4 Discussion

Recall the original hypotheses:

(I) Generally, in a corpus of naturally occurring language, among five GOAL prefixes, patterns of prefix-preposition collocation are not random.

(II) Za- has a less selective collocational profile than other GOAL prefixes.

(i) Za- collocates with more types of prepositional phrases than other GOAL prefixes.

(ii) Za- collocates more evenly with prepositional phrases than other GOAL prefixes.

As far as hypothesis I is concerned, my corpus study has confirmed that the distribution of prepositions across prefixes is not random in the context of GOAL motion events; that is, prefixes show significant collocation preferences for the type of prepositional phrase that follows. In that sense, both the doubling effect and the multiple valency are justified. Furthermore, GOAL prefixes, indeed, have significantly different collocational profiles with prepositions.

As far as the distribution of za- is concerned, my two hypothesis (i) and (ii) have been partially confirmed. First, za- does occur with more prepositional phrase types than some of the other prefixes like do- and pod-. For the other two prefixes (pri-, v-), which show instances of occurring with the same number of prepositional phrases as za-, za- in general has more instances of co-occurrence than the prefixes in the second group. For instance, za- has only one preposition with a single digit frequency of co-occurrence, and all other prepositions have frequencies no lower than 34 occurrences in the corpus. In contrast, pri- has frequency of co-occurrence values
between 1 and 2 for three of the six attested prepositions; and v- has two frequency values below 10.

Second, za- does have a relatively even distribution across the prepositional phrases it co-occurs with. The association dynamics are more easily discernible in a bubble chart of logarithmically compressed Pearson residuals in Figure 48 on p. 273. In general, za- has much smaller residual values than most of the other prefixes, and for the cognate pairs that show doubling effect it has the lowest positive residual of 9.378967 with the cognate za. The mildness of its residuals is comparable only to those of pri-, which does not have a cognate prepositional counterpart and has the strongest collocation association with na. At the same time, although mildly, za- shows a positive association with four of six prepositions (na, pod, v, za). In contrast, pri- reaches a level of significant positive association only with two prepositions, k and na, and has either negative or neutral association values. What this suggests is that between za- and pri-, as the two prefixes with mild degrees of prepositional association, it is za- that collocates more readily with more prepositions, not pri-.

Finally, one specific claim that I have hypothesized in my earlier discussion has been explicitly confirmed in this study. Namely, while za- and v- both show positive association values with the preposition v expressing the notion of container, the association of v- with this preposition is more than twice stronger for v- (20.370567), than for za- (8.074814). At the same time, v- has negative associations with four of the remaining five prepositions. This observation confirms my original proposal that v- has a strong bias towards goals being expressed as containers, while za- may accept these types of goals, but does not select for them to the same degree as v- does.
Cognate prefix-preposition association

Insignificant negative prefix-preposition association, between $-3.0$ and $0$

Significant negative prefix-preposition association, under $-3.0$

Significant positive prefix-preposition association, over $3.0$

Insignificant positive prefix-preposition association, between $3.0$ and $0$

Insignificant negative prefix-preposition association, between $-3.0$ and $0$

Cognate prefix-preposition pair association

The size of the maximum association value in the data (for do/do- at 46.24228); the base of circle size calculations for all data points $\log_{base}(x)$

Legend

Figure 48: A bubble chart of Pearson residuals for prepositional phrase frequency in the corpus for all motion verbs; logarithmic compression was applied to all data points to highlight association differences at lower values
This pattern becomes particularly apparent, if we acknowledge the fact that the preposition na ‘on’ in Russian is often employed not only in contexts, where the goal of a v-determinate motion verbs is the upper surface of an entity, or an open space, but also many container-like destinations of physical (e.g., na pochtu ‘in/to the post office’) or abstract nature (e.g., na urok ‘to class’; na večerinku ‘to the party’) (Ferm, 1990, p. 93–95). While a detailed analysis of the nouns in the prepositional phrases headed by na would be necessary to confirm this view, it is likely that the positive association between v- and na is due to instances, where na expresses the notion of containment. This would further support the view that v- has a strong selectional preference for goal phrases expressing containment, which do not have to be necessarily headed by the prototypical containment preposition v.

Overall, the findings of this corpus study permit us to confidently claim that za-expressing goal in the context of determinate verbs of motion has a positive association with more prepositions than other goal prefixes. This confirms my original claim about weaker selectional preferences of za-, as opposed to v- and other prefixes, and denotes nothing more than a location that is more restrictive of a directed motion than the domain including the path element of the motion event. The spatial configuration of the entity encompassing destination are thus very abstract, and, therefore, it is not surprising to find za- readily and “willingly” combining with more prepositions than other goal prefixes. This highlights the fact that the spatial compatibility enforced by za- is not very detailed (as opposed to v-, for example) and is probably characterized by a very high degree of schematization and abstraction. Valeeva (2001) has this property of za- as superior semantic elasticity and flexibility in expressing various spatial arrangements. Interestingly, we find supportive evidence for the abstract nature of za-’s semantics in contexts that exceed motion events. In particular, za- has been identified as one of the most frequent prefixes in Russian (Chertkova, 1996; Niko-
laev, 2011) and an extremely productive marker of perfectivity in most recent loan verbs as well as certain types of professional jargon and slang (S. V. Sokolova, 2009). S. V. Sokolova specifically attribute za-’s productivity to its semantic regularity; they also maintain that the regularity does not characterize an increasing productivity of one specific meaning of za-, but rather a range of such meanings as FIXATION, INCHOATIVE (of which BEGIN is an instantiation), and EXCESS all seem to be employed systematically to new verbal formations. In a sense, za-’s extended polysemy, despite its complexity, demonstrates high resilience and a broadening of applicable contexts, which may be indicative of its increasing grammaticalization (Hopper and Traugott, 2003, pp. 102–106). And although the contemporary system of aspectual marking does not categorically rely on any one prefix as a default marker of perfectivity, unlike the significantly more regular imperfectivizing suffix -iv/-yv or the semelfactive perfectivizing suffix -nu, a number of prefixes appear to be competing for the title of the most lexically neutral marker of perfective aspect, as a part of what is proposed to be the general leveling, regularization, and complete grammaticalization vector in the development of the Russian aspect (Silina, 1982). Filip (1999) sees po- as applicable to the widest variety of verbal stems, and it looks like za- is also headed in the same direction.

My discussion of za- perfective verbs of motion, however, has demonstrated that motivations for prefixal meaning has its firm grounds in the lexical expression of competing conceptualizations of motion schemas. The lexicalized distinction between how the internal texture of a motion events is construed guides the application of a particular meaning of the prefix za-. Whereas the perfective construal consistently enforces a distal perspective on the motion event with a summary scanning of its composite snapshots, the specific plexity interpretation of a motion event, consisting of a set of internal components, depends on the speaker’s choice, who selects the rel-
vant perspective on the event, as either telic or atelic, consisting of walk cycles, or a multitude of trips. Finally, the entrenched flexibility of viewing the original spatial BEHIND relation between two entities from within either the intrinsic or the relative reference frame creates the possibility—well established and extremely persistent among the class of verbs with the highest frequency—of viewing a motion event as either beginning or ending.
The aim of this work has been to provide a consistent analysis of the start/end meaning pattern in the Russian za-perfective motion verbs. I have demonstrated that this pattern is the outcome of a complex integration of the primary construals specific to aspect, determinacy, and the semantics of the prefix za-.

The major conclusion of my treatment of each of the contributing domains to the semantics of za-perfective motion verbs is that shifts in perspective account for the variety of the construals across all of these domains. Specifically, the perfective vs. imperfective distinction relies on the dichotomy of the proximal vs. distal perspective. Another component in the semantics of aspect is perceptual scanning which, too, relies on whether the construal assumes summary or sequential perspective on the temporal composition of an event. The difference in construal lexicalized by the Russian motion verbs also arises from what the speaker identifies as the internal composition of the event, whether it is holistic or if it consists of discrete entities. The ability to make this choice is motivated by the abstraction of the embodied experience of the conceptual distance between the speaker’s vantage point and the event. Finally, the two major meanings associated with the prefix za-, as contributing to the begin/end distinction, are motivated by the intrinsic vs. relative construal of the scene.

All in all this has been a journey in providing a cognitively based analysis for a number of phenomena in the Russian language. I started off with the intention of
identifying cognitively-motivated sources for the BEGIN/END opposition, which have a convincing explanatory power. Throughout my analysis, the idea that came up time and again is the salience of perspective at various levels of linguistic phenomena, which serves to organize human experience in specific ways. Linguistic structure represents a conventionalized system of symbols for expressing one’s intimate vision of an event in a way that is communicable to another human being. The patterns of meaning in za-perfective verbs of motion are particularly saturated with the notion of perspective, as all three contributing components—aspect, determinacy, and za—are simply entrenched processing cues for different ways of viewing a spatial scene.

The analysis offered here provides a strong foundation for addressing far more general patterns guided by the notion of perspective, regardless of its specific linguistic representation. That is, while the Russian motion verbs may be a unique class in lexically enforcing the determinate vs. indeterminate opposition, the principles I have explored in connection with the changes in the construal of an event introduced by the perfective or imperfective construal have an important potential for exploration of aspect in verbs in general. Furthermore, as the START/END meaning opposition evoked by the perfectivizing prefix za- is found outside of the class of motion verbs, the motivations for the distinction I have presented in this work can be applied to the analysis of non-motion za-perfectives. I would like to conclude this work with a few notes on areas, where the current analysis can be beneficially expanded, as a means of further elaboration and strengthening of its core message.

8.1 Class heterogeneity of motion verbs

As per my earlier discussion, motion verbs in Russian constitute a closed class which lexicalizes the distinction between determinate and indeterminate construals of mo-
tion events. The pairing of determinate and indeterminate stems for every manner of motion is persistent through perfective and imperfective aspect and warrants a unique status for motion verbs in Russian with generalizations drawn for either the determinate or the indeterminate subclass, or the class of motion verbs *en masse*. With the exception of my account of the drop-by meaning (Section 7.2 on p. 244), I have treated both subclasses as internally homogenous sets, claiming the overarching start/end opposition and observing prefix-collocation patterns at the determinacy-type level.

Upon closer examination, however, motion verbs do not behave identically and appear to show class internal variation in syntactic and semantic properties. Morphosyntactically, there is a tendency for some motion verbs to combine with a wider variety of prefixes than others. In one of the earliest corpus studies on verb control and prefixation in Russian, Grigorjan (1984) makes precisely this claim. He observes that while motion verbs as a class combine with the widest range of prefixes as compared to other verbs, the manner of motion expressed by a motion stem has effects on how prolific the combinatorial valency of this stem is in relation to prefixes (Grigorjan, 1984, pp. 170–177). Similarly, Titelbaum (1990) shows that within the indeterminate subclass verbs like *ezdit’* ‘drive’ are more productive than, for instance, *plavat’* ‘swim’ and *polzat’* ‘crawl’ (Table 13 in Appendix B on p. 284).

Furthermore, in terms of semantics, some verbs of motion enjoy a more central status in reference to the generalized schema of change of location than others, which is shown for *idti* ‘walk, go by foot’ in Rakhлина (2004) and Nesset (2008). Rakhлина demonstrates that *idti* ’walk’ serves as a ‘generalized’ verbal stem to express motion in construals with an explicit predetermined goal regardless of the particular manner of motion involved. For instance, the vehicle specific verb *exat’* ‘move by conveyance; drive’ occurs in contexts where the itinerary or schedule is not clearly specified (137)
and the generalized \textit{idti} is found in sentences implying a non-arbitrary movement (138).

(137) Автобус едёт медленно.

Avtobus-∅ ed-et medlenno.

\textit{Bus-NOM.SG drive\textsubscript{D}.IMPERF-PRES.3RD.SG} \textit{slowly}.

‘The bus is going slow.’

(138) Автобус идёт в Архангельск.

Avtobus-∅ id-¨ et v Arxangel’sk-∅.

\textit{Bus-NOM.SG go\textsubscript{D}.IMPERF-PRES.3RD.SG} in \textit{Archangelsk-ACC.SG}.

‘The bus goes to Archangelsk.’

A similar pattern is observed for verbs denoting flying and swimming, where if schedules, gravity, and the celestial order impose a pre-determined goal the motion events are encoded by the generalized \textit{idti\textsubscript{D}}, as opposed to the more specific \textit{letet\textsubscript{D}} ‘fly\textsubscript{D}’ and \textit{plyt\textsubscript{D}} ‘swim\textsubscript{D}’ (see pp. 9–17 ibid for a detailed discussion). Although Rakhлина admits that these patterns are not absolute and may show variation depending on the register, this variation may prove to be crucial to identifying the extent of the heterogeneity of motion verbs as a class.

Furthermore, my corpus study at a closer examination also shows variability dependent on the motion verb stem. In particular, the general prefix-prepositional collocation tendencies I have identified in Subsection 7.3.3 on p. 269 are not representative of individual verbs and the broad treatment of the collocational patterns may hide more subtle phenomena specific to each motion verb. For instance, while the majority of motion verbs prefixed with \textit{pod-} have a strong positive association with the preposition \textit{k}, \textit{pod-lezt\textsubscript{D}} ‘pod-crawl\textsubscript{D}’ exhibits a pattern representative of the doubling effect with 72\% of all collocating prefixes headed by \textit{pod} ‘under’ (see a sample of prefix-preposition collocation for \textit{idti ‘walk\textsubscript{D}’} in Appendix D on p. 288).
Finally, semantic heterogeneity can be observed not only between different motion verbs within the determinacy class, but also for specific verbs, once we recognize the complex polysemy representing the comprehensive range of their use. In particular, terms denoting motion and spatially situated relationships are often extended into the non-spatial domain, which is clearly exemplified by the English *go*. Langacker (1987, p. 168) exemplifies this ability in the following sentences:

(139) A train went through the tunnel.

(140) I went through the book in just three hours.

(141) He can go quickly from one mood to another.

(142) The milk is about to go bad.

(143) I am going to go to bed.

It is clear that the metaphoric restructuring of the construal profiled by *go* is the motivator of its progressing extensions into the temporal and qualitative domain in (139)–(143). A similar pattern has been observed in Russian *idti* (Nesset, 2010) and, in fact, proposed to reflect the tendency in many languages to employ verbs of general motion for extensive metaphorical interpretations that are conventionalized as polysemantic uses Heine (1994). While the Russian *idti* does not quite reach the level of abstraction as the English *go* in its extensions as an intention or a future marker in (143), many of extended uses of *idti* have been excluded from my corpus. A similar situation, with a varying degree of semantic variability, is characteristic of other motion verbs.

Also, note that *bresti/brodit’* pair despite their origin in the determinacy based dual representation of ‘fording’, have come to denote manners of motion that
contrast more than just in determinacy (bresti₅ ‘walk slowly’ vs. brodit’₁ ‘wander aimlessly’), although it must have been the motivating factor for this semantic digression. The original semantics associated with ‘ford’ have been falling out of use with the decline of the experience with this particular activity in everyday life of the speakers, making the contexts where the determinacy-based distinction would be opportune, far less common (Forsyth, 1963, p. 5).

These observations provide a more organic and sophisticated picture of the class of motion verbs. My original analysis aimed at capturing the patterns at most general levels of productivity and regularity, which to a certain extent sacrificed the idiosyncratic patterns. It is in this direction that future research on this topic should be explored and its generalizations attuned.
## Appendix A

**The scholarly transliteration standard adapted in the dissertation**

<table>
<thead>
<tr>
<th>Cyrillic</th>
<th>Transliteration</th>
<th>Cyrillic</th>
<th>Transliteration</th>
</tr>
</thead>
<tbody>
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<td>А а</td>
<td>A a</td>
<td>Р р</td>
<td>R r</td>
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<tr>
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<td>C c</td>
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Table 12: Scholarly transliteration standard (Pedersen, 2006; Reformatskij, 1960)
APPENDIX B

PREFIXAL PRODUCTIVITY OF INDETERMINATE VERBS OF MOTION
<table>
<thead>
<tr>
<th>Verb stem</th>
<th>v-</th>
<th>vy-</th>
<th>do-</th>
<th>za-</th>
<th>iz-</th>
<th>na-</th>
<th>ob-</th>
<th>ot-</th>
<th>pere-</th>
<th>po-</th>
<th>pod-</th>
<th>pro-</th>
<th>raz-</th>
<th>s-</th>
<th>u-</th>
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</tr>
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<tbody>
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<td>+</td>
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<td>'swim'</td>
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<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>9</td>
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</tr>
</tbody>
</table>

Table 13: Prefixation productivity in indeterminate motion verbs. ‘-’ does not form a prefixed derivation; ‘+’ forms a prefixed derivation; adapted from Titelbaum (1990, p. 40); data for brodit’ ‘ford’ from the Russian National Corpus (Vinogradov Institute of the Russian Language and Poetics, 2012)
APPENDIX C

ASSOCIATIONS BETWEEN PREFIXES AND PREPOSITIONAL PHRASES FOR ALL MOTION VERBS

<table>
<thead>
<tr>
<th>$Pf$-Verb $\rightarrow$ Motion</th>
<th>do</th>
<th>k</th>
<th>mezhdu</th>
<th>na</th>
<th>pod</th>
<th>v</th>
<th>za</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-$V_M$</td>
<td>673</td>
<td>15</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>1</td>
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<tr>
<td>pod-$V_M$</td>
<td>0</td>
<td>601</td>
<td>0</td>
<td>6</td>
<td>78</td>
<td>14</td>
<td>1</td>
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<tr>
<td>pri-$V_M$</td>
<td>1</td>
<td>308</td>
<td>0</td>
<td>113</td>
<td>2</td>
<td>274</td>
<td>2</td>
</tr>
<tr>
<td>v-$V_M$</td>
<td>0</td>
<td>18</td>
<td>1</td>
<td>105</td>
<td>7</td>
<td>568</td>
<td>1</td>
</tr>
<tr>
<td>za-$V_M$</td>
<td>2</td>
<td>155</td>
<td>0</td>
<td>93</td>
<td>41</td>
<td>375</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>676</td>
<td>1097</td>
<td>1</td>
<td>320</td>
<td>128</td>
<td>1239</td>
<td>39</td>
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</table>

Table 14: Frequencies of prepositional phrases in the corpus for all motion verbs

<table>
<thead>
<tr>
<th>$Pf$-Verb $\rightarrow$ Motion</th>
<th>do</th>
<th>k</th>
<th>na</th>
<th>pod</th>
<th>v</th>
<th>za</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-$V_M$</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
<tr>
<td>pod-$V_M$</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
<tr>
<td>pri-$V_M$</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
<tr>
<td>v-$V_M$</td>
<td>135.0454</td>
<td>219.1492</td>
<td>63.92684</td>
<td>25.57073</td>
<td>247.5167</td>
<td>7.791083</td>
</tr>
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<td>za-$V_M$</td>
<td>135.2386</td>
<td>219.4627</td>
<td>64.01829</td>
<td>25.60732</td>
<td>247.8708</td>
<td>7.802229</td>
</tr>
</tbody>
</table>

Table 15: Expected values for prepositional phrase frequency in the corpus for all motion verbs; $X^2 = 5177.02$, df = 20, p-value < $2.2e-16$, $\phi_c = 0.6081882$
<table>
<thead>
<tr>
<th>$Pf-V_M$</th>
<th>do</th>
<th>k</th>
<th>na</th>
<th>pod</th>
<th>v</th>
<th>za</th>
</tr>
</thead>
</table>

Table 16: Pearson residuals for prepositional phrase frequency in the corpus for all motion verbs

<table>
<thead>
<tr>
<th>Entropy direction</th>
<th>$U_{\text{Prefix}/\text{Preposition}}$</th>
<th>$U_{\text{Preposition}/\text{Prefix}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values</td>
<td>0.4412706</td>
<td>0.4936095</td>
</tr>
</tbody>
</table>

Table 17: Prefix-preposition entropy values for all motion verbs
Appendix D

Associations between prefixes and prepositional phrases for idti, ‘walk’

<table>
<thead>
<tr>
<th>Pf-idti</th>
<th>do</th>
<th>k</th>
<th>mezhdj</th>
<th>na</th>
<th>pod</th>
<th>v</th>
<th>za</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-jti</td>
<td>98</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>pod-o-jti</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>pri-jti</td>
<td>0</td>
<td>41</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>43</td>
<td>0</td>
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<tr>
<td>v-o-jti</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>0</td>
<td>96</td>
<td>0</td>
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<tr>
<td>za-jti</td>
<td>0</td>
<td>36</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>50</td>
<td>6</td>
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Total  98  178  0  28  1  189  6

Table 18: Prepositional phrase frequency in the corpus for idti, ‘walk’

<table>
<thead>
<tr>
<th>Pf-idti</th>
<th>do</th>
<th>k</th>
<th>na</th>
<th>v</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-jti</td>
<td>19.87830</td>
<td>36.10548</td>
<td>5.679513</td>
<td>38.33671</td>
</tr>
<tr>
<td>pod-o-jti</td>
<td>19.87830</td>
<td>36.10548</td>
<td>5.679513</td>
<td>38.33671</td>
</tr>
<tr>
<td>pri-jti</td>
<td>19.87830</td>
<td>36.10548</td>
<td>5.679513</td>
<td>38.33671</td>
</tr>
<tr>
<td>v-o-jti</td>
<td>19.87830</td>
<td>36.10548</td>
<td>5.679513</td>
<td>38.33671</td>
</tr>
<tr>
<td>za-jti</td>
<td>18.48682</td>
<td>33.57809</td>
<td>5.281947</td>
<td>35.65314</td>
</tr>
</tbody>
</table>

Table 19: Expected values for prepositional phrase frequency in the corpus for idti, ‘walk’; \( X^2 = 767.6755, \text{df} = 12, p\text{-value} < 2.2e^{-16} \phi_c = 0.7204514 \)
<table>
<thead>
<tr>
<th>$Pf$-idti</th>
<th>do</th>
<th>k</th>
<th>na</th>
<th>v</th>
</tr>
</thead>
<tbody>
<tr>
<td>do-jti</td>
<td>17.521938</td>
<td>-6.0087833</td>
<td>-1.5439556</td>
<td>-6.1916649</td>
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<tr>
<td>pod-o-jti</td>
<td>-4.458508</td>
<td>10.6335210</td>
<td>-2.3831729</td>
<td>-6.1916649</td>
</tr>
<tr>
<td>pri-jti</td>
<td>-4.458508</td>
<td>0.8145615</td>
<td>4.3305657</td>
<td>0.7531554</td>
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<td>v-o-jti</td>
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<td>-1.1243469</td>
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<td>za-jti</td>
<td>-4.299630</td>
<td>0.4179549</td>
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Table 20: Pearson residuals for prepositional phrase frequency in the corpus for idti, ‘walk’

<table>
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<th>Entropy direction</th>
<th>$U_{\text{Prefix}/\text{Preposition}}$</th>
<th>$U_{\text{Preposition}/\text{Prefix}}$</th>
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</thead>
<tbody>
<tr>
<td>Values</td>
<td>0.4876847</td>
<td>0.6435008</td>
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</tbody>
</table>

Table 21: Prefix-preposition entropy values for idti, ‘walk’
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