5-1-2016

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by

CHRISTOPHER HART-MOYNIHAN

THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts
Linguistics

The University of New Mexico
Albuquerque, New Mexico

May 2016

DEDICATION

This thesis is dedicated to two families: Robert, Priscilla, and Luke, and Carla, Joel, and all the Jacobsens/Beauchamps. Thank you for your support. By hook or by crook!

ACKNOWLEDGEMENTS

May 2016

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ABSTRACT

The Russian verbal prefix *na-* is one of a set of aspectual prefixes that exhibit characteristics of both derivational and inflectional morphemes. In addition to forming aspectual pairs as a grammatical marker of Perfective aspect, *na-*, in many cases, also carries lexical meaning; in these cases, *na-*prefixation changes the lexical/semantic meaning of the verbal stem, resulting in a distinct lexical item. I examine a sample of 40 verbs to compare the frequencies of *na-* as a lexicalized prefix and as a grammaticalized prefix. I then propose a radial category model to account for the polysemous functions of *na-*, with several metonymically and metaphorically related functions branching out from a single spatial prototype.

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1. Introduction

Russian, an East Slavic language spoken by over 180 million people in Eastern Europe and Northern Asia, has a complex system of verbal aspect. Comrie (1976) summarizes the general view of aspect by way of a distinction between two primary ways of construing the temporal consistency of an action or state (a 'situation'): "perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up that situation; while the imperfective pays essential attention to the internal structure of the situation" (16). Bybee (1985: 142), states, "the function of aspect is to allow the temporal dimensions of a situation to be described from different points of view depending on how the situation is intended to fit into the discourse."

Many studies, including Janda (2007a) and Croft (2012), discuss the difficulty of categorizing aspect in Slavic languages. Croft (2012), in an analysis of verbal aspect in Russian, writes, "the morphology [of the Russian verbal-aspectual system] does not neatly divide itself into distinct inflectional categories" (110). Broadly, aspectual distinctions of Russian verbs are manifested morphologically both through imperfective infixation (or simply the absence of prefixation in unmarked forms) and perfective prefixation. Of these two morphological processes, imperfective infixation is generally considered a process restricted to the creation of imperfective aspectual partners from perfective verbs:

1.   a. *dat'* 'give(Pf.)'   *davat'* 'give(Imp.)'

        b. *pokazat'* 'show(Pf.)'   *pokazyvat'* 'show(Imp.)'

        c. *razgovorit'* 'discuss(Pf.)' *razgovarivat'* 'discuss(Imp.)'

Perfective prefixation, on the other hand, is generally believed to be actually two distinct semantic processes. In the first of these, a perfective partner is created from an imperfective verb

through prefixation: *pisat'-napisat'* 'write', *videt'-uvidet'* 'see', *smotret'-posmotret'* 'look at'. In the second, more specific aspectual or lexical information--information "above and beyond" mere perfectivity as Comrie (1976) defines it above--is added to the verbal root through prefixation, resulting in a new lexical iterm: *govorit'-ugovorit'* 'speak-convince', *est'-doest'* 'eat-finish eating', *dumat'-razdumat'* 'think-change one's mind'. In the latter process, a verbal prefix adds a lexical or aspectual semantic component *in addition to perfectivity*, such as completion or orientation toward a goal, as can be seen in the examples above.

Croft (2012) mentions two types of aspectual distinctions coded by Russian verbal-aspectual morphology: in addition to the broad Perfective/Imperfective distinction, which is found in almost all verbs, he describes a Determinate/Indeterminate distinction for verbs of motion. Croft (2012) states that the Determinate/Indeterminate distinction is for expressing directed vs. undirected activity, while the Perfective/Imperfective distinction is for differentiation between temporally bounded and temporally unbounded predicates. Many others, including Dickey (2000) and (2005), and Janda (1986) and (2007), propose additional semantic shifts encoded by Russian verbal aspectual prefixes, including, among others, Delimitative, Iterative, and Resultative/Causative.

This study will primarily address perfective prefixation that adds meaning beyond that of perfective temporal boundedness. I focus on the process of metaphorical semantic extension of aspectual prefixes, with specific reference to the aspectual prefix *na-*. In this study, I will show that *na-*, when used as a verbal prefix, has undergone semantic broadening in several directions from an original spatial meaning of physical location or movement on or above a surface. I will argue that this meaning of physical movement (or location) has been figuratively/metaphorically reinterpreted by speakers and given additional dimensions both lexically and grammatically. This

has resulted in a polysemous prefix that in many cases contributes semantically opaque lexical

information to a verbal root (i.e., lexical information that is not transparently derivable from the

original spatial/aspectual meaning of the prefix), creating a new lexeme, and in other cases

carries a range of more transparent aspectual meanings including, under various circumstances,

completion of an action (Perfective), exhaustion of an action, and undertaking of an action until

reaching a change of state (Resultative), among several others.

2.　　a. Lexical:　　*stroit'* 'build'　　　*nastroit'* 'adjust, tune'

　　　b. Perfective: *pisat'* 'write(Imp.)'　*napisat'* 'write(Pf.)'

　　　b. Exhaustive: *govorit'* 'say, speak'　*nagovorit'sya* 'say, speak enough, finish speaking'

　　　c. Resultative: *maslit'* 'butter(v.)'　　*namaslit'* 'cover with butter'

The polysemy and semantic broadening of *na-* offers a case study of both lexicalization

and grammaticalization in progress. As will be shown, there are many *na*-prefixed predicates

where *na-*'s contribution is neither lexically transparent (as a spatial prefix) nor grammatically

transparent (as a marker of a grammatical/aspectual category, such as Perfective). For many of

these *na*-predicates outside of the spatial/motion domain, the lexical (spatial) meaning that *na-*

possesses as a preposition and transparently contributes to predicates in the spatial domain is

applied metaphorically to the predicate, resulting in a contribution of *na-* that is semantically

opaque to varying degrees.

Many of these predicates in which the semantic contribution of *na-* is opaque, especially

the ones with the highest token frequencies, undergo lexicalization[1], meaning that they are

increasingly reanalyzed as non-compositional lexical roots in their own right by speakers. At the

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[1] Lexicalization is defined by Brinton and Traugott (2005) as "the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal AND semantic properties that are not completely derivable or predictable from the constituents of the construction or the word formation pattern" (96).

extreme end of this lexicalization process are simplex *na-* prefixed predicates where the semantic contribution of *na-* is fully opaque; Section 4 provides a detailed discussion of this process.

In addition to undergoing full or partial lexicalization with a range of predicates, *na-* has also undergone grammaticalization diachronically.[2] As the metaphorical re-interpretation of *na-* has allowed it to be used in co-occurrence with a semantically wider range of predicates, the lexical content that it brings to those predicates has become less evident and in many cases it has been re-analyzed as a semantically transparent (inflectional) grammatical marker of Perfective aspect. At the extreme end of the grammaticalization process are predicates where *na-* seemingly functions simply as an inflectional morpheme used to create a perfective partner from an imperfective verb. In these cases, the semantic contribution of *na-* is not connected to spatial meaning of any kind. Therefore, it can be prefixed to a much wider range of predicates; examples of this will also be discussed.

In modern Russian, *na-*predicates encompass a wide range of domains, from motion, to cognition, to speech-acts, among others, and also a wide range of default temporal construals. Predicting or modelling probabilistically the semantic contribution of *na-* to a given predicate as a function of the domain or default temporal construal of the verbal root, while possible in theory, is beyond the scope of this study. One example of the difficulty in this kind of analysis is illustrated by *na-*prefixed predicates with the same root but distinct semantics:

3. a. *nagovorit'*   'gossip, say unbelievable things'

    b. *nagovorit'sya*   'talk/say enough'

In this study, I analyze the frequency of *na-*'s occurrence in complex and simplex

---

[2] Grammaticalization is defined by Lehmann (1985) as "a process which turns lexemes into grammatical formatives and makes grammatical formatives still more grammatical" (308), and by Bybee (2003) as "the process by which a lexical item or a sequence of items becomes a grammatical morpheme, changing its distribution and function in the process" (146).

predicate types in various stages of grammaticalization and lexicalization using data from the Russian National Corpus. I map the current (synchronic) position of *na-* and *na-*prefixed predicates along the lexicalization and grammaticalization axes. This suggests the extent to which *na-* has undergone the diachronic processes of lexicalization and grammaticalization from a quantitative standpoint, as well as providing a visual representation of these processes in *na-* and *na-*prefixed predicates.

In Section 5, I propose a radial category model of the semantics of *na-* as a prefix, following Lakoff (1987), in order to outline and classify the ways in which *na-* contributes semantically to *na-*predicates. It will be shown that *na-*prefixed predicates employ the image schema for complex motion events outlined in Talmy (1988a) and Croft et al. (2010), both literally in the physical domain and metaphorically in other domains. *na-* encodes the 'framing component' of this image schema. Generally, the 'framing component' encodes specific information about the (physical or metaphorical) Path component, such as the manner and directionality of the movement. *na-*'s function as a framing component is to profile the contact between two objects. It will be shown that *na-* has a range of meanings that are related either by metonymy or metaphorical extension to the prototypical meaning of *na-*, which indicates movement 'on' or 'over' an object or surface in the (prototypical) core image schema. The proposal of the radial category model for *na-* will include a discussion of the image schemas for the metonymically related uses of *na-*, as well as the specific construals involved in the metaphorical application of these image schemas. A brief description of each specific use of *na-* will be given with examples from the Russian National Corpus.

I argue that *na-* is stored as a radial category with multiple members. Each member is related to the prototype via metonymical or metaphorical extensions of the core (physical) image

schema (a complex motion event profiling the contact of a trajectory with a landmark). This manifests itself as polysemy of *na-* synchronically, with *na-* being more or less grammaticalized in different contexts (i.e., predicates) and *na-* predicates being more or less lexicalized. Construction Grammar approaches suggest that *na*-predicates comprise a family of constructions, which can be represented as *na+*VROOT (more schematic) and *na*VROOT (less schematic). There are also cases of full semantic fusion where the semantic contribution of *na-* to the predicate has become completely opaque; in other words, it no longer adds any obvious lexical or grammatical meaning (VROOT). The meaning of *na-* results from the constructions of which it forms a part; it is a Gestalt. Diachronically, the extension of *na-* to a wider range of constructions (i.e., predicates) can be explained in terms of the 'novel reconstrual' of predicates mentioned in Croft (2001:129): a novel syntactic structure (adding *na-* to a predicate) expresses a novel reconstrual of the event expressed by the predicate (as a complex motion event utilizing the core image schema described above). This new construal is then conventionalized over time: *na+*VROOT → *na*VROOT → VROOT.

In Section 6, I discuss the implications of the semantic development and profile of *na-* for the study of verbal aspect as a whole. In the case of *na-*, diachronic patterns of use have resulted in a synchronic polysemy for the morpheme, resulting in a diverse array of functions for the morpheme that are tangentially related to its original, spatial connotation.

2. Theoretical orientation and background

In this section, I provide an overview of the principles of cognitive linguistics that form the foundation for the analysis that follows. I begin, in Section 2.1, with a summary of the notions of construal, frame, base, and profile that are drawn from the definitions found in cognitive grammar and then outline the principles of construction grammar and radical construction grammar, with a look at how these ideas apply to my analysis of Russian *na-*. I then move to a discussion of cognitive semantics in Section 2.2, and to a discussion of cognitive approaches to aspect, more particularly, in Section 2.3. Finally, I provide background cognitive theoretical approaches to language change, and specifically to the research on lexicalization and grammaticalization in Section 2.4.

2.1. Cognitive and Construction Grammar

The research on Russian *na-* predicates presented here is grounded in the tradition of Construction Grammar approaches to language, including Croft's Radical Construction Grammar and Langacker's Cognitive Grammar. Broadly, these cognitive-functionalist theoretical models seek to model the emergence of syntactic structures from semantic construals--the outgrowth of form from meaning--as well as to find commonalities with broader cognitive processes such as categorization and analogy.

Langacker (1987) proposes a cognitive semantic model of language that draws on our understanding of more generalized cognitive processes and that is based in meaning. He writes, "Central concepts of cognitive grammar suggest an alternative [to traditional grammar], where linguistic theory consists in the substantive characterization of prototypical structures, graded with respect to their degree of prototypicality and cognitive entrenchment; higher degrees of prototypicality and entrenchment translate into greater likelihood that a structure will be

implemented among the conventions defining a given language" (52). Thus, Langacker's model

is in line both with research in cognitive psychology on prototype effects (e.g., Rosch 1978) and

with functionalist work on the emergence of grammar from patterns of usage (e.g., Hopper

1987).

2.1.1. Notions of construal, frame, base, profile

Before discussing the specific details of the polysemy analysis of *na-* that this study will

undertake, it is important to explain several more essential concepts found in Cognitive and

Construction Grammar that are fundamental to the present study. Here I will discuss some key

terms found in these models, including 'construal', 'frame', 'base', and 'profile'.

In Cognitive Grammar, *construal* refers to the the way that the 'conceptual structure' of

an event is represented semantically in language. Langacker (1972) and (1987/1988) argues that

'semantic structure' and 'conceptual structure' represent two layers of meaning, with 'conceptual

structure' referring to the way in which events are structured in reality[3], independently of

language, while 'semantic structure' refers to the way that specific languages encode this

structure. Langacker writes:

> If one language says *I am cold*, a second *I have cold*, and a third *It is cold to me*, these
>
> expressions differ semantically even though they refer to the same experience, for they employ
>
> different images to structure the same basic conceptual content (Langacker 1987:47).
>
> Semantic structures incorporate conventional "imagery", i.e. they construe a situation in a
>
> particular fashion...The lexical and grammatical resources of a language are therefore not
>
> semantically neutral--inherent to their nature is the structuring of conceptual content for symbolic
>
> purposes (Langacker 1988:49).

The example cited by Langacker above, in which languages semantically code the same event

---

[3] Or, if one wishes to draw the distinction, the way in which the human mind apprehends and structures real events "independently of" or "prior to" language. For the purposes of this study, the structure of events "as the mind perceives" them and "as they truly are" is considered to be the same.

differently, is an example of differing construals. *I am cold* construes *cold* as a property of the subject *I*, similar to other properties (*fat*, *tired*, *American*), whereas *I have cold* construes *cold* as a mass noun possessed by the subject *I* (similar to *tea*, *hair*, *tenure*), and *It is cold to me* construes *cold*, rather than *I*, as the central participant in the event (see Croft (2001:111-126) for a more detailed discussion). The use of differing semantic or symbolic construals for the same event in different languages is taken by Langacker as evidence that languages are not 'semantically neutral', although the possibility is left open that certain semantic structures may be more or less neutral with respect to the (language-independent) conceptual structure of the event. Croft (2012) states, "The most salient characteristic of construal is that the same experience may be construed in alternative ways" (13).

Cognitive and Construction Grammar argue that the cognitive processes by which construals are created are the same as those utilized in other (non-linguistic) cognitive tasks. The process of 'Judgement/Comparison' is one of four (equally important) broad cognitive abilities that, according to Croft and Cruse (2004), play an active part in the construction of construals-- the others being Attention/Salience, Situatedness, and Constitution/Gestalt.

For the concept of 'frame', this study uses the definition given in Fillmore (1982), who states, "By the term 'frame' I have in mind any system of concepts related in such a way that to understand anyone of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available. I intend the word 'frame' as used here to be a general cover term for the set of concepts variously known, in the literature on natural language understanding, as 'schema', 'script', 'scenario', 'ideational scaffolding', 'cognitive model', or 'folk theory'." Croft and Cruse (2004) define a frame as a "coherent region of conceptual space" (14). In other

words, a 'frame' is a type of encyclopedic cognitive category instantiated by a linguistic form, such as a word or construction.

The concept of 'base' in Cognitive Grammar is similar the idea of 'frame'. In Cognitive Grammar, 'bases' are central concepts, or elements of conceptual structure, which are fundamental to understanding the use of more specific concepts. Langacker gives the example of a WHEEL: for an understanding of concepts such as SPOKE, HUB and RIM, a knowledge of the concept of WHEEL is fundamental. In Cognitive Grammar terms, WHEEL is a base and SPOKE, HUB, and RIM are profiles.

Predications have bases as well, which can be more complex than the bases of reference constructions such as 'wheel', given that predications often encode dynamic events with multiple participants. Langacker (1987) states, "The base of a predication is simply its domain (or each domain in a complex matrix)" (6), with domain defined as "any sort of conceptualization: a perceptual experience, a concept, a conceptual complex, an elaborate knowledge system, and so forth" (4). Domains include both "'basic domains', that is, cognitively irreducible representational spaces or fields of conceptual potential," such as, for example, certain physical domains, and 'non-basic domains' (5). Common domains that serve as bases for predications include physical, cognitive, and perceptual domains, among others. In other words, the 'base' of a predication is the domain or domains in which the event described by the predication takes place.

Croft and Cruse (2004) define a base as "that knowledge or conceptual structure that is presupposed by the profiled concept" (15); a profile "refers to the concept symbolized by the word in question" (15) (for example, radius is a concept that can only be understood against a background understanding of circle; radius is the profile and circle is the base). Additionally, the

meaning of a linguistic unit must specify both the profile and the base, and a domain is "a semantic structure that functions as the base for at least one concept profile" (15).

2.1.2. Construction grammar

Construction Grammar can be broadly understood as an approach to the study of language that seeks to ascertain the relationship of form and meaning. The key idea of Construction Grammar is that, in addition to words, constructions themselves have independent meaning. The earliest studies in Construction Grammar, such as Fillmore et al (1988), focus on idiomatic constructions whose meaning is not reducible to their component parts, such as English *let alone.* Later iterations of Construction Grammar, including Boas and Sag (2012) and Goldberg (1995), among others, seek to outline a taxonomy of constructions in language and model their relationships with one another. As Goldberg (1995) describes construction grammar, "Basic sentences of English are instances of constructions -- form-meaning correspondences that exist independently of particular verbs...constructions themselves carry meaning independently of the words in the sentence" (1). Constructions, she says, are form-meaning correspondences which constitute the basic units of grammar. The lexicon is "not neatly differentiated from the rest of grammar" (4).

2.1.3. Radical Construction Grammar

Radical Construction Grammar is unique among approaches to Construction Grammar in its proposal of a non-hierarchical relationship between constructions. In Radical Construction Grammar, small, concrete units of language such as words and morphemes are considered constructions on the same level as highly schematic, multivalent constructions such as, for example, ditransitive and argument structure constructions.[4] All constructions have meaning that emerges through their co-occurrence with and distribution within other constructions, similar to a

---

[4] This study uses the terms 'construction' as it is used in Fillmore et al (1988).

Gestalt. For example, parts of speech, rather than being taken as lower-level building blocks with intrinsic or primitive semantic meaning, instead are understood to have a meaning that is a function of the position they occupy in all of the more schematic constructions in which they occur. Croft (1999), discussing the issue with the former approach, states,

> "Constructions are used to define categories [such as parts of speech]--this is the distributional method. But then categories are taken as primitives that define constructions--this is the standard syntactic model of representation...The distributional method is perfectly valid: it accurately and completely describes the grammatical patterns of language. There is no proper alternative to distributional analysis. Instead, we should abandon the assumption that syntactic structures are made up of primitive categories and relations" (73-74).

Croft (2001) argues that grammar is fundamentally grounded in and derived from the semantic construals of objects, properties and actions that arise through cognitive and interactional linguistic processes. The result of those processes on grammar can be investigated cross-linguistically, leading to the identification of typological universals of linguistic structure and possibly allowing for language change to be modeled probabilistically. The current research is an example of such an investigation; it seeks to explain a component of grammar--the morpheme *na-*'s function as a prefix in Russian--through an explanation of the diachronic cognitive and interactional processes that have led to the current usage.

According to Croft (2001), semantic structure and semantic change in language arises from a universal, though multifaceted, conceptual structure:

> "There exists a conceptual structure that represents universal aspects of human experience, even if that conceptual structure is multifaceted. Hence we may posit a multidimensional conceptual space that is largely the same for human beings. The conceptual space must allow for alternative conceptualization of experience, as manifested by the extension of constructions to describe situations that they were not used to describe in earlier stages of the language. This is captured by the structure of the conceptual space. Extension of constructions to new uses is a change in the distribution of that construction, and such changes are theorized to follow connected paths in conceptual space. For example, the predication of bodily states would be situated between the

predication of inherent properties and the predication of possession, thereby representing its conceptually intermediate--and conceptually ambivalent--status. The structure of conceptual space should capture the similarities and differences of neighboring points in the space, which invite alternative conceptualizations." (130)

Conceptual space can therefore be thought of as a type of exoskeleton containing conceptual structure in language; the shape of conceptual space puts certain constraints on conceptual structure, but within those constraints, conceptual structure (and the resultant semantic structure) can and does vary greatly, both within and across languages.

Another feature of Radical Construction Grammar that follows from this hypothesized conceptual space is the rejection of the assumption that certain constructions are semantically equivalent across all languages. Instead, Radical Construction Grammar merely posits the existence of constructions within languages that may have commonalities with other constructions in other languages. This leaves open the possibility that analogous constructions in different languages might occupy different points in conceptual space as they undergo processes of diachronic change.

Through the idea of a multidimensional conceptual space on which specific linguistic constructions are located and connected to one another, Radical Construction Grammar reaches a conclusion somewhere in between the extreme semantic universalist position and what Croft calls the 'semantic relativity hypothesis'. The extreme universalist position, in essence, seeks to reduce semantics to a basic set of atomic 'universal primitive categories', which are the hypothetical building blocks of the conceptual structure, common to all speakers, that underlies the semantic structure of all languages. The strong version of the semantic relativity hypothesis draws the opposite conclusion: differences of semantic construal across languages are indicative of significant differences in the cognitive conceptual structure of the speakers of those languages, and therefore finding any kind of semantic universals across languages is not possible.

Radical Construction Grammar posits the existence of a common conceptual structure and conceptual space that is "roughly the same" for all speakers (128). However, rather than a static structure composed of atomic primitives, conceptual structure is "an experience in which alternative, conflicting conceptualizations are simultaneously immanent" (128).

> The alternative conceptualizations are rendered available by the different grammatical elements, from lexical items to grammatical constructions, that make up a speaker's utterance in context. The multidimensional character of experience can allow for a novel construal of the semantic structure for a conceptual experience. The novel reconstrual of semantic structure is expressed by the use of a nonconventional syntactic structure for that experience (such as the earliest uses of *avoir* 'have' for bodily states), which encodes the reconstrual in the process that I have described in this section...Once the new syntactic structure has become conventionalized, however, other, universal, properties of the experience reassert themselves.
>
> (129)

The 'novel reconstrual' of an experience described by Croft (2001) is the catalyst for diachronic language variation and change; it is also, as the present study argues, the cognitive basis for the wide range of functions of the aspectual prefix *na-*. The present study argues that the use of *na-* in a wide range of predications can be explained as the result of novel reconstruals of various experiences using a nonconventional morphosyntactic structure containing the (originally spatial) prefix *na-* -- similarly to the example of *avoir* mentioned by Langacker and Croft--which has in many cases then become fully conventionalized.

The idea of linguistic compositionality, its role in Radical Construction Grammar, and its relevance to this study, will now be briefly discussed. The principle of compositionality, also known in the philosophy of language as 'Frege's Principle', is commonly stated as, "The meaning of a compound expression is a function of the meaning of its parts and of the syntactic rule by which they are combined" (Partee, ter Meulen, and Wall, 1990:318). Croft (2001) modifies this principle, stating, "More precisely, the semantics of the whole construction follows the general rules of semantic composition of expressions in the language...In a construction

grammar model, the general rules of semantic composition correspond to the symbolic relations

linking form and meaning in the most schematic or general constructions in the language" (180).

From a Radical Construction Grammar perspective, less schematic or more concrete

constructions (words and morphemes) and more schematic constructions (clauses, argument

structure constructions) both influence one another's semantics. Over time, the semantics of less

schematic constructions such as the prefix *na-*, can be pulled in different directions by the

semantics of the various, more schematic constructions of which they form a part. As a result,

the connection of the meanings of the less schematic constructions with their 'original' meanings

becomes less evident in some cases as many of the more schematic constructions become

conventionalized and themselves less compositionally or schematically analyzable (one example

of this process taken to completion is the continued use of idioms whose individual components

are no longer used independently in a language, such as English *kith and kin*).

2.1.4. Application to Russian *na-*

From the perspective of Cognitive Grammar, the polysemy of *na-* is due partly to its use

with predicates in various domains, and partly to the different 'profiles' of predicates within the

physical domain that take *na-*.[5]

In the case of *na-*, the primary 'base' that the use of *na-* in predication constructions

instantiates[6] is a complex motion event, within the physical domain, with all of the components--

including a conventional understanding of spatial and force-dynamic relations between objects--

necessary for a cognitive representation of the event. The 'profile' of *na-* varies with different

predicates that take *na-*, even for predicates within the physical domain. The variation in profile

means that predicates with *na-* in the physical domain may 'elevate' or 'foreground' different

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[5]The first phenomenon is metaphor, and the second is metonymy. Both concepts are discussed in 2.2.3.

[6] This can be understood as similar to *na-*'s frame in Fillmore's terminology, or its core image schema (discussed in 2.3.1.).

nodes of this base: this is how distinct metonymic usages of *na-* arise, such as movement on or over a surface, movement against a surface or caused movement against a surface.

Additionally, the application and use of the representational elements of this base within other non-basic domains leads to metaphorical usages of *na-*, such as completion of a task, finding an object or gossiping about someone. When *na-* is used with predicates in non-basic (non-physical) domains, some of the concepts that are associated with its use in basic domains still apply, but to varying extents and in diverse ways, depending on the specific domain. Langacker would argue that understanding the function of *na-* is a matter of combining all of concepts associated with the use of *na-* with predicates in different domains: "The conventional meaning of a lexical item must be equated with the entire network, not with any single node" (4).

As a result, the conceptual structures of an extremely wide range of events and event participants are represented semantically by Russian *na*-predicates and their arguments, as this study will show. From the perspective of Radical Construction Grammar, in the case of *na-*, the predicate created by adding the prefix *na-* to a verbal root (represented in RCG notation as *na*+VROOT) can be seen as a 'more schematic construction' (i.e., a construction whose meaning can be derived from the meaning of its parts). As with other cases of aspectual prefixation in Russian, the semantic composition of this construction is often simply a result of combining the independent uses of the two components (the meaning of the prefix when used as an independent preposition + the meaning of the verb when used independently of prefixation), which themselves are 'less schematic/more concrete constructions' in RCG.

Often, however, the meaning of the whole construction is less compositional (and, therefore, predictable), especially when the event described does not involve literal motion or movement (this can be represented as [*na*-VROOT], or, in extreme cases when the compound

predicate has undergone full re-analysis and *na-* is no longer recognized as a prefix, simply

VROOT). In other words, the more schematic construction, the predicate, becomes itself less

schematically analyzable. As stated above, this leads to the existence of a range of different

meanings for *na-* in different constructional/usage contexts (i.e., different predicates).

2.2. Cognitive Semantics

Cognitive semantics is one of three principal approaches to semantics, the other two

being formal semantics and generative semantics. Central to Cognitive Semantics is the notion

that linguistic meaning is a product of cognitive processes that result in linguistic

conceptualization or construal[7]. Consequently, the semantic meaning of constructions in

language is subject to contextual variation and change and cannot be satisfactorily modeled

truth-conditionally. Several models of cognitive semantics, including Frame Semantics and

prototype theory, propose solutions to this dilemma.

2.2.1. Frame Semantics

Fillmore (1982) proposes a generalized model of cognitive semantics. The concept of

'frames', outlined in 2.1.1, is central to Fillmore's model of Frame Semantics. Petruck (1996)

writes, "In Frame Semantics, a word represents a category of experience; part of the research

endeavor is the uncovering of reasons a speech community has for creating the category

represented by the word and including that reason in the description of the meaning of the word"

(1). In other words, the meaning of words and other linguistic constructions is a product of the

network of concepts (the 'frame') that each construction instantiates, a network that is built up

within a language community through shared experience. Frames for a given construction may

include information outside of a truth-conditional model, which allows for a more detailed

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[7] These terms are used fairly interchangeably in the literature; in this study I have opted to use 'construal' (see 2.1.1.) due to its more specialized use within the field of Cognitive Linguistics.

description of meaning. Fillmore (1982) gives the example of *land* and *ground*; both terms refer to the same entity in reality, making them semantically equivalent from a truth-conditional perspective. However, the frame for *land* includes a default opposition to *water*, while the frame for *ground* includes a default opposition to *air*.

Goldberg (1995) applies a frame analysis to argument-structure constructions, showing that not only the meaning of more concrete linguistic items such as words, but also that of highly schematic linguistic constructions, can be explained in terms of frames. Taking the case of *na-*, in Frame Semantics terms, the use of a *na*-predicate activates a specific frame or schema--that of a complex motion event--with all of its attendant participants and components, such as Figure, Ground, Path, and Manner (discussed further in 2.3.1.).

2.2.2. Polysemy

Cognitive semantics explains linguistic polysemy as a result of the cognitive process of comparison, which leads to categorization and the forming of category structure. Croft (2001) states, "...monosemy and homonymy are not the only possible analyses of word, morpheme, or constructional meaning...A polysemy analysis for a word or construction proposes that two uses of a form are semantically related to each other by a semantic process (such as metaphor) without those two uses being semantically identical (=having a single overarching meaning)...Polysemy analyses play a central role in cognitive linguistics; Lakoff (1987) for example discusses them in detail, calling them radial categories" (115-116). This paper employs Lakoff's radial categories model, outlined in 2.2.4, to provide a polysemy analysis for *na-*. I show that *na-*, as a verbal prefix, has multiple, related meanings, making a polysemy analysis best suited for its description. The ways in which these meanings are related to one another can be modeled using prototype theory and radial categories, which will be expanded upon in 2.2.4.

2.2.3. Metaphor and metonymy

Croft and Cruse (2004) explain that the fundamental cognitive process of comparison allows for the existence of linguistic categorization as well as metaphor, which is defined here and elsewhere in the literature as "mapping between a source domain and a target domain" (34). In other words, the application of a concept from a more concrete domain (i.e., a domain more connected with the "developmental, physical neural, and interactive body", to use terms from Lakoff and Johnson's (1999) embodied cognition model), such as, for example, directionality, is used in order to conceptualize and understand a concept from a more abstract domain, such as quantity; an example of this is the sentence, *Prices are rising.* This results in the differing construal and polysemy of the lexical item used to refer to both concepts--in this case, the word *rising.*

2.2.4. Prototype categories and radial categories

The concept of cognitive 'bases' as prototypical structures in cognitive-semantic space and 'profiles' as substructures instantiated and brought into focus by specific linguistic forms from Cognitive Grammar has much in common with prototype theory and the radial category model of semantics proposed by Lakoff. Lakoff (1987) states, "Most of our words and concepts designate categories... (xiii) We categorize events, actions, emotions, spatial relationships, social relationships, and abstract entities of an enormous range" (6). In Lakoff's model, linguistic forms (morphemes, lexemes, word classes, routinized phrases, etc.) possess a network of related meanings that all bear relation to a central prototype. In this model, the relations between members of a radial network, and therefore the cognitive processes of categorization that give rise to the network, are often unpredictable. Lakoff's well-known example of a noun class from Dyirbal containing members the Dyirbal nouns for 'fire', 'women', 'water', 'violence' and some

animals (cf. Dixon (1968)), serves as an example of how the categorization process for a linguistic form--in this case, a noun--does not always use similarity of salient features like of size or shape as a requirement for category membership, but might rather use something completely different, like similarity of perceived level of dangerousness in this case.

Lakoff (1987) gives the example of the word 'bachelor'; if the meaning of this linguistic form is strictly defined (formally or truth-conditionally) as "an unmarried adult male", then there are clear examples of individuals that meet these criteria but to whom the word 'bachelor' does not apply as a descriptor, such as Tarzan and the Pope. In other words, although these individuals meet the truth conditions necessary to be considered bachelors, they are not conventionally construed as such.

Prototypicality should not be understood as the proposal of an objectively standard fundamental meaning for a given form. Rosch (1978) writes, "To speak of a *prototype* at all is simply a convenient grammatical fiction; what is really referred to are judgements of degree of prototypicality" (40). In other words, to speak of a particular form-meaning mapping as prototypical is simply to say that the speech community judges it to be prototypical. A related idea is that prototypes are not necessarily to be understood as semantic primitives, as Langacker (1987) clarifies: "No specific claim is made to the effect that the smallest units of linguistic significance are necessarily primitives...Semantic units are defined relative to knowledge structures, which can be extremely complicated, even for units that are minimal for most linguistic purposes" (87).

Prototypes can exist for very broad linguistic categories, such as *man* or *transitive verb*, or for single lexical elements, such as *na-*, whose meaning may vary in different contexts. For each category, members vary in their degree of closeness to the prototype. Diachronically,

certain uses of a given linguistic form are conventionalized through use, which results in a

gradual shift in the semantic prototype corresponding to that form. In other words, while a form

can be polysemous synchronically, its prototype can also change over time so that the form

becomes polysemous diachronically as well. These two semantic processes are part of broader

processes of language variation and language change.

2.2.5. Application to Russian *na-*

　　This study will argue that the function of *na-* can be depicted by a radial category

analysis. The myriad meanings of *na-* as a verbal prefix all bear relation to the prototype

meaning of MOVE ON/OVER SOMETHING, whether by using the same conceptual structure/image

schema in the case of predicates within the physical domain, focusing attention on a particular

part of the image schema in the case of some verbs (metonymy), or the application of the

prototypical conceptual structure/image schema to non-physical domains (metaphor).

2.3. Cognitive approaches to aspect

2.3.1. Complex events

　　A fundamental necessity for an understanding of *na-*'s wide range of synchronic

functions and its diachronic evolution is a more general understanding of the structure of

complex events and the various ways that these can be encoded in language. Talmy (2003a)

analyzes "the specific way in which language shapes and structures conceptual content, that is,

the specific patterns in which and the processes by which conceptual content is organized by and

in language" (2). Talmy (1985a) claims that language organizes conceptual content for various

event types through recourse to Image Schemas, which allow for the expression of the (often

metaphorical) spatial context within which an event takes place as well as the categorization

through spatial construal of the various event participants. Different event types have different

core schemas: the core schema for motion events, for example, consists of Figure, Ground, Path, and Manner.

Talmy's later research argues that the schema for motion events is also used more generally for any change-of-state event with a resultant state. Croft et al. (2010) explain, "This more generalized concept of a path is called *framing* in Talmy's later work: framing includes concepts such as path, aspect etc. that delimit or otherwise frame the verbal event. The event frame in Talmy's sense corresponds to the *result* in the dichotomy of event types presented by Levin and Rappaport (2005); the other event component is called *manner* by Levin and Rappaport" (3). Given this analysis, it can be stated that *na-* and other markers of verbal aspect encode the *framing* component of an event; when the verb to which *na-* is prefixed expresses a motion event, *na-* encodes information about the Path, and when the verb expresses some other type of event, such as a cognitive or interactional process, *na-* may encode other temporal information, perhaps simply expressing perfective aspect or perhaps giving more detailed temporal/aspectual information such as a change of state of one of the event participants.

Slobin (2004) and Croft et al. (2010) expand upon the investigation of complex event coding in language by proposing a cross-linguistic typology of complex event expression. They divide languages (or, more accurately, constructions within languages) into categories based on the morphosyntactic manner in which the framing component of a complex event is expressed: Verb-Framing, Satellite-Framing, Symmetrical-Framing, (Slobin 2004, Croft et al. 2010), to which Croft (2010) adds Double-Framing. Each element of the core image schema can be mapped to various morphosyntactic elements; for example, Russian, along with French, is given as an example of a language that employs double-framing constructions, "in which the path or framing expression is expressed twice, once as a detached satellite and once as part of the verb"

(Croft et al, 2010: 7). The following example is given as evidence of this:

Russian (Talmy 1985:105)

(30) Ja   **vy-**   bežal **iz**   doma
      I   out-   ran   from   house:GEN
      'I ran out of the house.'

(7)

Here, the framing component 'out of/out from' is expressed in two ways: as a spatial

aspectual prefix to a motion verb and as an independent spatial preposition. According to

Peskova (2013), double framing of complex motion events allows for the spatial/aspectual prefix

to be analyzed over time as a marker of simple perfective aspect (or for the prefix/predicate

combination to be re-analyzed as a single lexicalized form), which meaning then leads to its

more productive use as a perfective marker on non-motion verbs.

2.3.2. Croft's *Verbs*

Croft (2012) investigates the influence of aspectual structure and causal structure of

events on argument structure and event lexicalization. Croft focuses in particular on the

inadequacy of aspectual theory, which classifies predicates according to aspectual type, to

explain argument structure by itself. According to Croft, both aspectual structure and causal

structure affect argument structure, albeit independently. Croft proposes a three-dimensional

model for integrating the representation of causal and aspectual structure for predicates (ch. 5-6).

2.3.2.1. Situation types - Vendler

Vendler (1967) provides the first classification of event types expressed in language.

Vendler justifies this classification semantically and logically, as well as through an examination

of the differentiated morphosyntactic coding of different event types in language. According to

Vendler (1967), events can be classified as States, Activities, Achievements, or

Accomplishments. Vendler writes, "the concept of activities calls for periods of time that are not

unique or definite. Accomplishments, on the other hand, imply the notion of unique and definite time periods. In an analogous way, while achievements involve unique and definite time instants, states involve time instants in an indefinite and nonunique sense" (26).

Vendler's proposed event types can also be seen as a first attempt to construct a typology of aspectual predicate types. Vendler uses constructional evidence in some cases to differentiate among the four types--for example, activity and accomplishment predicates can occur in the continuous, or progressive, construction, while state and achievement predicates cannot, accomplishment predicates usually take a nominal complement (e.g., *run a mile*, *paint a picture*), while activity predicates usually do not (*run*, *paint*), achievement predicates occur in participial constructions even to express a present meaning (*He has won the race*)--but other, more slippery cases, such as the differentiation between activities and accomplishments and accomplishments and achievements, are explained through reference to the basic 'time schemas' of each event type:

> For activities: A was running at time t means that time instant t is on a time stretch
> throughout which A was running.
> For accomplishments: A was drawing a circle at t means that t is on the time stretch in
> which A drew that circle.
> For achievements: A won a race between t1 and t2 means that the time instant at which A won
> that race is between t1 and t2.
> For states: A loved somebody from t1 to t2 means that at any instant between t1 and t2
> A loved that person.

(25-26)

This approach to verbal aspect, therefore, consists of the establishment of event types largely based on semantic criteria, followed by the investigation of the overlap of morphosyntactic constructions with these types.

2.3.2.2. Croft's revision of Vendler's categories

Croft (2012) proposes a revision of Vendler's categories. In this revised model, there are:

a. Four types of states: inherent (permanent) states, acquired permanent states, transitory states, and point states; the last could be seen as subtype of transitory states;

b. Two types of activities: directed activities and undirected activities:

c. Two types of achievements: reversible achievements and irreversible achievements:

d. Accomplishments;

e. Cyclic achievements (semelfactives);

f. Runup achievements--not punctual like other achievements, but not incremental like Vendlerian accomplishments.

This model offers a more detailed classification of the types aspectual meaning that can be contributed by aspectual prefixes such as *na-*. Often, the prefixation of a predicate with an aspectual prefix such as *na-* involves a change in the construal of the event type of the predicate; while this possibility is not covered in detail in this study, it is illustrated in the discussion of the radial category model of *na-*, particularly in the discussions of *na-*'s function as a Resultative and Perfective marker. In these instances, *na-* seems to be used to give an achievement construal to a predicate which has a default construal as an activity.

2.3.3. Application to Russian *na-*

It is argued here, similarly to Peskova (2013), that in Russian, the original use of *na-* in a double-framing construction in complex event predicates to encode movement on or above a surface has been semantically broadened through a conceptual re-mapping of the lexical and morphosyntactic elements of various complex event constructions to the visual components found in the core image schema.

Peskova (2013) sees the reanalysis of spatio-temporal prefixes as semantically empty markers of perfectivity in Czech as an example of pragmatic inferencing leading diachronically to semantic reanalysis of a morpheme, writing,

Semantic components of complex motion events are hypothesized to have belonged to one core schema that consisted of figure, a path encoding prefix, a manner verb, a path encoding preposition, and ground. Spatial prefixes thus belonged to one major constructional schema of path encoding telic motion events. In a constructional network encompassing telic motion event expressions with path prefixes and prepositions, plausible links between literal contents and implicatures on the path prefixes may become more relevant than the original symbolic mapping between a spatial meaning and a prefix...In this view, the prototype of all path telic motion event expressions allowed for the conception of a plausible link between the literal contents and the goal oriented nature of the construction. In particular, this thesis argues that goal oriented telic complex predicates yielded a resultative interpretation of the core schema, creating a likely inference between prefixes and perfective implicatures. Indeed, spatial prefixes in these constructions came to be associated with telic predicate expressions and a frequently inferred result state that accompanied them.

(24)

This analysis states that aspectual prefixes evolved from lexical/derivational morphemes with definite spatial semantics to grammatical/inflectional morphemes with a more generalized aspectual meaning, through a cognitive process of broadening of the core schema used for "goal oriented telic complex predicates" to have simply a resultative meaning--which the prefix was assumed to encode. Peskova (2013) does not take a position with respect to the question of total semantic bleaching of verbal aspectual prefixes in Czech, stating simply that a "likely inference" has been made between verbal prefixes and "perfective implicatures".[8]

The current study argues that *na-*, originally a spatial prefix analyzed by speakers as a descriptor (framing component) of the Path indicating that the Path's movement is occurring 'on'

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[8] This idea of total semantic bleaching and grammaticalization of prefixes, so that they end up as simple markers of perfective aspect, is an idea that is rejected by the Overlap Hypothesis (Vey 1952; Schooneveld 1958; Janda & Nesset forthcoming). This hypothesis posits that there are no semantically empty aspectual prefixes in Russian; in other words, no prefixes are simply grammatical markers of perfective aspect. Even in the case of Natural Perfectives, the fact that the prefix appears to be adding nothing to a predicate's meaning apart from perfectivity is an illusion, according to this hypothesis; in such cases, the additional spatio-temporal lexical information conveyed by the prefix is also expressed in the predicate, so the overlapping semantic information is rendered redundant and the predicate is simply perfectivized without any significant lexical semantic change, making the prefix seem semantically "bare" even though this is actually not the case.

A definitive determination of the validity of the hypothesis to the semantics of *na-* or to Russian verbal aspectual prefixes as a whole is beyond the scope of the present study,

or 'above' an object or surface, has in many cases had its meaning re-interpreted due to the metaphorical application of the complex motion event schema to goal-oriented, telic complex event predicates outside the physical domain. When *na-* cannot literally refer to 'movement on/above an object/surface', a process of inference occurs in which its function of profiling additional components (e.g., the position and directionality) of the physical Path is transferred to a function of profiling additional components of the metaphorical Path, such as, for example, its orientation toward a Goal. This allows *na-* to be semantically reanalyzed as resultative or causative marker--and, in some cases, seemingly a simple inflectional marker of perfective aspect.

2.4. Cognitive and functional approaches to language change

Language variation and change allow semantic meanings to be mapped to linguistic forms in an inexhaustible variety of ways. The social/cognitive mechanisms of semantic diachronic shift and synchronic diversity are complex. A very broad overview of the basic principles of language change is given in Bybee (2008):

1. mechanisms of change are universal in that they can be found operating in all languages at all times
2. they are relatively few in number
3. they involve neurocognitive tendencies that manifest themselves as language is produced and processed
4. they apply during individual usage events
5. the cumulative effect of their application over multiple usage events creates grammar

(109)

Each of the various extant cognitive semantic models represent the social/cognitive mechanics of semantic change in slightly different ways, with different foci. In turn, these models have implications for an understanding of the function of *na-*, which is polysemous both synchronically and diachronically.

2.4.1. Grammaticalization

Two of the primary processes of language change at the semantic level are lexicalization and grammaticalization. Hopper and Traugott (1993) define grammaticalization as, "the change whereby lexical terms and constructions come in certain linguistic contexts to serve grammatical functions, and, once grammaticalized, continue to develop new grammatical functions" (1). Bybee and Dahl (1989), following Givón (1973), write, "Perhaps the best way to characterize the semantic changes that take place in grammaticization is to say that specific components of lexical meaning are generally lost" (61).

2.4.2. Lexicalization

Lexicalization can be broadly understood as the process through which new words or 'lexical items' are created, and languages increase the size of their word inventory, or 'lexicon'. While lexicalization may occur in several ways, including through abbreviation or lexical borrowing in situations of language contact, the process that is observed in the lexicalization of Russian verbal predicates with spatial-aspectual prefixes is a type of compounding. In this process, two distinct lexical elements with distinct semantics are fused into a compound root, which then becomes entrenched through repeated usage events to the extent that its original compositional meaning is no longer apparent; in other words, the compound root *itself* becomes perceived and reanalyzed as a simple root by speakers, no longer merely the sum of the two roots that comprise it.

Brinton and Traugott (2005) further explain this outcome of the lexicalization process:

> Lexicalization is the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal AND semantic properties that are not completely derivable or predictable from the constituents of the construction or the word formation pattern. Over time there may be further loss of internal constituency and the item may become more lexical.

2.4.3. Unidirectionality

The concept of unidirectionality is essential to a usage-based account of language change. This concept implies that processes of language change such as grammaticalization and lexicalization, almost without exception, occur in only one direction.

The relationship between grammaticalization and lexicalization is complex and subject to debate. Himmelman (2004) states,

> "Problems concerning the boundary between lexicalization and grammaticalization (and lexicon and grammar, for that matter) arise from the fact that lexical generality is not a matter of all or none. That is, the alternative is not between, on the one hand, grammatical patterns consisting of a highly general grammatical element (b) and a large host-class (A) and, on the other hand, a string of two (or more) specific lexical items. Instead, there are a number of intermediate possibilities, i.e. patterns which are more general than a fixed lexicalized phrase but less general than the typical grammatical pattern…The make-up of a grammatical pattern may be opaque and have clear features of non-compositionality but at the same time it may involve a highly general grammatical marker which is applicable to a large number of lexical items...In the view developed here, grammaticalization and lexicalization both are processes of conventionalization.

The hypothesized direction of development for all constructions (in the vast majority of cases) is from LESS GRAMMATICALIZED → MORE GRAMMATICALIZED on the grammaticalization axis and from LESS LEXICALIZED → MORE LEXICALIZED on the lexicalization axis (critically, these are not the same axis). Naturally, grammaticalization and lexicalization processes of constructions take place at different historical points and at varying speeds.

The language change processes taking place in multidimensional cognitive/social semantic space, therefore, constitute a cycle. At all times in a language, there are lexical items undergoing semantic broadening, allowing them to occur in more generalized semantic contexts (with greater type frequency), and, in some cases, to come to serve an exclusively grammatical function. There are also, at all times, lexical items in varying stages of grammaticalization being

compounded with other lexical items in agglutinative and fusional morphological processes and undergoing routinization and entrenchment (greater token frequency) through multiple usage events; these then become the 'simple' lexical items used in the next round of grammaticalization, semantic broadening, and lexical compounding.

From a usage-based theoretical perspective, the existence of a lexical-grammatical continuum along which all morphemes, including aspectual prefixes, move unidirectionally over time is supported by diachronic linguistic evidence (Lehmann (1982/1995); Heine and Reh (1984); Heine et al. (1991); Hopper and Traugott (1993); Traugott (1991a); Bybee et al. (1994) and Bybee (2007)).

2.4.4. Application to Russian *na-*

Two points from Bybee and Dahl (1989) that are highly relevant to the current study are:

- not all members of a closed grammatical class (e.g., Russian/Slavic verbal aspectual prefixes) are at the same stage in the grammaticalization process

- there is often a lack of correlation between structural/positional and semantic classes in a language due to the grammaticization of the members of the class at different times in the history of the language; Bybee and Dahl use the example of English, which has past (V-*ed*), future (*will* + V) and perfect (*have* + past participle) tenses all expressed in different positional classes, while a single structural class, modal auxiliaries, contains tense (*will* and *shall*), deontic modality (*must* and *should*), and epistemic modality (*may* and *might*). Overall, "membership in structural class [of a gram] is not determined solely by its meaning, but at least in part by chronological coincidence" (61). In Russian and other Slavic languages, for example, aspect is expressed both through prefixes

and through suffixes--different positional classes--and, for some predicates, through a combination of the two.

Verbal aspectual prefixes in Russian constitute a closed class, many of whose members are at different stages of grammaticalization. Russian aspectual prefixes originate as spatial prepositions (Shull 2003:14, Dickey 2012:71, Deo 2012:163). In the grammaticalization process in Russian, each of these spatial prepositions are being, diachronically, gradually prefixed to a widening array of predicates, causing them to be more semantically polysemous and to have a more generalized meaning in some contexts. In the lexicalization process in Russian, specific prefix/predicate compounds at various points on the grammaticalization spectrum gradually undergo semantic fusion and are no longer analyzed as semantically compositional; in other words, the prefix and predicate together become a single lexical/verbal root.

Because each verbal aspectual prefix in Russian is polysemous, each one has meanings that are situated, synchronically, along the entire continuum from LESS GRAMMATICALIZED (positionally independent spatial prepositions) to MORE GRAMMATICALIZED (positionally fixed verbal markers, seemingly coding only perfective aspect). Similarly, each prefix/predicate compound exists synchronically somewhere along the lexicalization continuum from LESS LEXICALIZED (overtly compositional compounds with low token frequency) to MORE LEXICALIZED (compounds that have lost internal constituency, i.e., whose meanings are no longer overtly compositional, with high token frequency).

This study 'maps' the current position of *na-* along the grammaticalization spectrum by means of qualitative and quantitative analysis of its use in modern Russian. Additionally, it will provide a snapshot of verbal compounds with *na-* at various stages in the lexicalization process (from *na* + VROOT to *na*VROOT to VROOT) by examining specific *na-*/predicate compounds that

serve as examples of these stages.

3. Previous research on verbal aspect in Russian

Foundational research on verbal aspect has been done by Comrie (1976), Forsyth (1970), Isacenko (1960) and Jakobsen (1936). Extensive research on Russian aspectual prefixes has already been undertaken by, among many others, Dickey (2000) and (2005), Janda et al. (2013) and (2011), Janda (forthcoming), (2007), and (1986), Janda and Lyashevskaya (2013), Endresen et al. (2012), Baydimirova (2010), Filip (2005) and (2004), Svenonius (2004), Polinsky (2006), and Ramchand (2008) and (2005). This research has approached Russian verbal aspect from many different theoretical vantage points.

3.1. Formal approaches: Filip, Svenonius, Polinsky

Filip (2005) approaches the question of the semantics of the prefix *na-* through an analysis of the case taken by nominal arguments of verbs with *na-*. According to Filip, *na-* is a 'measure prefix' that, with certain other measure prefixes, "enforce[s] a non-specific indefinite interpretation of nominal arguments [it] target[s]" (50). Therefore, "[these measure prefixes'] functionality resembles that of determiners within DPs" (50). Russian has no articles, so case is the chief means by which definiteness or indefiniteness is expressed in the language. Filip points out that verbs prefixed with *na-* do not take nominal arguments in the nominative case, but rather in the genitive case, expressing a partitive meaning akin to the English "SOME NP". In this way, Russian uses *na-* together with genitive case to express the semantic indefiniteness of the nominal argument.

Like Janda (2007) and Croft (2012), Filip emphasizes the semantic diversity of Russian aspectual prefixes: "Slavic verbal prefixes as a whole class have no constant aspectual, or other, meaning in all of their occurrences, semantically they constitute a highly heterogenous class exhibiting considerable lexical idiosyncracies" (48). This is reinforced by the fact that, "They

have all the characteristics of derivational morphemes, which are difficult to reconcile with the common view of perfective and imperfective aspect in Slavic languages as grammatical categories" (48).

The implications of Filip's findings for this study are encapsulated in the finding, "the semantic contributions of measure prefixes cannot be assimilated to the semantics of perfectivity, and they cannot be treated as overt morphological exponents of the perfective operator" (40). In other words, a more semantically rich account is needed to explain the function of a measure prefix such as *na-*, above and beyond simply labeling it a 'Perfective' prefix. This study, however, will differ from Filip (2005) in that it sees the expression of indefiniteness of nominal arguments of some *na-* verbs as a secondary effect of the spatio-temporal semantics of *na-*, rather than the primary function of *na- per se.* In other words, the morphosyntactic changes that occur with the arguments of *na-* predicates are attributable to and explainable in terms of *na-*'s broader cognitive semantics.

Svenonius (2004) gives evidence for the existence of 'lexical prefixes', which are to be contrasted with 'superlexical' prefixes, or prefixes possessing a determinable aspectual meaning. According to Svenonius, lexical prefixes have certain semantic properties which differentiate them from superlexical prefixes, which can are more productive (i.e., they occur with more predicates). First, they possess "core spatial meaning", meaning that they primarily encode spatial information about the predicate to which they are prefixed. Second, they tend to produce idiomatic, non-overtly compositional meanings when prefixed to predicates, whereas superlexical prefixes generally express only Perfective aspect. Finally, lexical prefixes are attached directly to the verbal root in cases where a verb has more than one prefix.

This distinction between prefixes with preposition-like uses which often combine

idiomatically with verbs on the one hand, and prefixes with adverb-like uses that combine semantically "transparently" with verbs is another way of drawing attention to the difference between the derivational morpheme-like behavior of many prefixes and the current theoretical understanding of them as inflectional morphemes, which Filip (2004) also notes. However, many individual prefixes, including *na-*, have both functions. The present study proposes that, rather than classifying prefixes by means of a strict dichotomy of 'lexical' and 'superlexical', prefixes be classified according to where they fall on the lexicalization and grammaticalization continua. This system better accounts for prefixes such as *na-*, which in some cases behaves as a lexicalizing, derivational morpheme and in others seems to be a fully grammaticalized, inflectional morpheme.

Polinsky (2006) discusses these lexical and grammatical functions of Russian aspect in a study that draws upon evidence from heritage speakers of Russian in the United States. Polinsky's summary of the two main approaches to Russian aspect is worth repeating: "Under the first approach, aspect is viewed as a grammatical phenomenon, with the grammar somewhat marred by diachronic residues and lexical exceptions...According to the second approach, aspect is a lexical characteristic, with some degree of grammaticization" (226). In other words, under the first interpretation, aspectual pairs are construed by speakers as two slightly grammatically different forms of what is essentially the same lexeme, whereas under the second, aspectual pairs are perceived as separate lexical items.

This is another way of framing the problem mentioned by Filip (2005); if aspectual prefixes are inflectional, then the first, grammatical account is more accurate, but if the prefixes are derivational, then 'aspectual pairs' are better understood as distinct linguistic items. This problem of the lack of applicability of this strict morphological dichotomy to the linguistic data

is resolved if we apply the lexicalization-grammaticalization continuum proposed by Peskova (2013), discussed below, to Russian aspect.

Polinsky gives evidence from American Russian (Russian spoken as a heritage language) in support of this second interpretation. She writes, "If American Russian serves as a litmus test of any kind, Russian aspect is clearly a lexical category...verbs no longer form aspectual pairs. Rather, they are retained as separate entities or just one form, perfective or imperfective, is retained and the other is lost" (226). She finds that verbs of achievement and accomplishment under Vendler's (1957) classification tend to be retained only in the perfective form, while "verbs denoting processes and states...are often lexicalized in the imperfective form" (227). She concludes, "since [Russian speakers] no longer have the relevant morphosyntactic oppositions of Full Russian, for them the verb *dat'* 'give' or *sidet'* 'sit' is just a lexical item without a specified aspectual value" (231). It is likely that aspectual prefixes such as *na-* often provide lexical information in the case of speakers with "Full Russian" as well, rather than simply indicating an aspectual (grammatical) opposition.

3.2. Cognitive approaches: Janda, Croft, Baydimirova, Endresen et al.

The previous three studies of Russian aspect were framed within a formal approach to linguistic study, approaches that posit a clear distinction between lexicon and grammar. As a result, issues of *na-*'s description are centered on the question of whether it belongs to the first or the second category. The studies to be reviewed in this section, by contrast, are based in cognitive grammar and thus focus on meaning, highlighting the differing semantic construals offered by differing forms (Janda (2007b) and Croft (2012)) and the role of prototype categories and semantic extension (Baydimirova (2010), Endresen et al. (2012), and Dickey (2007)). Vendler's approach is also used by Janda (2007b) and Croft (2012); Croft (2012) explains "the

derivational potential of a Russian verb root," (116) by drawing upon Janda's (2007b) types of Perfective forms:

> Natural Perfective, which appears to be closest to the Imperfective basic form in meaning, apart from the difference in aspectual construal; Specialized Perfective, which differs in its lexical semantics from the Imperfective; Complex Acts, which in our terms profiles temporal boundaries of the Imperfective...and Single Acts, which are the semelfactive (cyclic achievement) construal of undirected activity Imperfectives.

<div align="right">(115-116)</div>

These myriad event construals mean that a single root can, taking different aspectual prefixes, give rise to a 'cluster' of related verbs: *govorit'* 'speak', to give one example, renders *nagovorit'* 'gossip' and *ugovorit'* 'convince' as Specialized Perfectives, *dogovorit'* 'finish talking', *pogovorit'* 'talk a bit' and *razgovorit'/razgovarivat'* 'get talking' as Complex Acts, and *dogovorit'sya* 'come to an agreement' and *nagovorit'sya* 'say enough' as Single Acts.

The prefix *na-* seems to instantiate all of these Perfective types: Croft (2012) gives *napisat'* as a prototypical Natural Perfective form, while with other Perfective verbs *na-* can both profile temporal boundaries and significantly alter the lexical meaning, as we shall see, and an example of Single Act predicate formed with *na-*, *nagovorit'sya*, has just been mentioned. The present research will use the modified version of this classification of predicate types used in Peskova (2013).

This supports the argument that na- is a polysemous aspectual marker, not only in terms of the different idiosyncratic semantic meanings it contributes in various Specialized Perfectives, but also in its function as a resultative or perfective marker. Janda (2007b) and Croft (2012) both discuss the many meanings that prefixation and infixation can lend to a single verb root, leading to the existence of a 'cluster'; in other words, rather than simply forming Perfective or Imperfective 'pairs', verbal roots take several spatial prefixes, resulting in an array of related lexemes. Verbal prefixes such as *na-* can form polysemous clusters of their own and vary in

meaning according to the verb to which they are attached.

The aspectual meaning contributed by the prefix is a metaphorical extension of the spatial meaning that the prefix possesses as an independent preposition.[9] This metaphorical extension of spatial meaning can be captured through a radial category analysis of prefixes, which has been undertaken by several studies, including Endresen et al. (2012) and Dickey (2007). Here I will discuss one such study, Baydimirova (2010), in greater detail. This particular study is similar to my own in that it focuses on a single prefix with relatively high type frequency; according to Endresen et al. (2012), *o-/ob-/obo-*, the prefix analyzed by Baydimirova, forms 226 Natural Perfectives, while na- is next with 177 Natural Perfectives. Both prefixes, in other words, have similar distributional patterns, somewhere between, on the one hand, the "small" prefixes with much lower type frequencies, and on the other, po-, the prefix analyzed by Dickey (2007), which forms 417 Natural Perfectives and, according to Dickey (2007) and several others, is becoming a default perfectivizer in Russian.

Baydirimova (2010) applies a radial category analysis to the group of aspectual prefixes *o-, ob-, and obo-*. Much of this study is occupied with the discussion of whether these prefixes represent one or multiple morphemes. According to Baydimirova (2010), Krongauz (1998) claims that what was once an original single morpheme has now become two distinct morphemes, *o-* and *ob-* (which themselves have overlapping allomorphs). The morpheme *ob-* "has a spatial meaning that is most evident in motion verbs (e.g., *letet'* 'fly', *ob-letet'* 'fly around'), while the morpheme *o-*, found mostly in factitives, denotes the imposition or acquisition of a property (e.g. *mrachnyj* 'dark, gloomy' -- *o-mrachit'* 'darken, cloud'" (21).

The spatial meaning corresponding roughly to English 'around' is very similar to that of

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[9] To give an exemplary case of this, when the verb *vinit'* 'accuse' takes the prefix *iz-* 'of, from, out of', the resulting verb is *izvinit'* 'excuse, pardon'.

o-/*ob-* 'about/around' as a preposition. This meaning is expanded in a range of ways from the prototype meaning referring to spatial motion around an object. Following Taylor (1995), which builds on research in cognitive linguistics to propose a number of tenets of prototype theory, Baydimirova (2010) explains, "The extensions of the prototype come in two types according to two basic cognitive mechanisms: metonymy and metaphor. Metonymical extensions occur when an image schema is reduced to its part or is re-interpreted with a different focus. Metaphorical extensions are those that apply the same image schema to a different domain. Particularly, they account for the shift from a spatial domain to the non-spatial domains of human relations, emotions, personal features, etc." (43) Metonymical and metaphorical extensions of the prototype play an identical role in the semantic development of *na-*, as we shall see, and my study of *na-* also follows Baydimirova (2010) in proposing a radial category model for the meanings expressed by the prefix.

Baydimirova (2010) proposes a radial category model motivated on the large scale by a twofold extension of the semantic profile from the prototype. The prototypical meaning of *o-*/*ob-*/*obo-*, MOVE AROUND AN OBJECT, gives rise to 14 related subcategories, where "each subcategory corresponds to a different semantic contribution of a prefix to a simplex stem" (42). These subcategories can be divided into the two larger groups, "driven by the two different interpretations of the prototype: proximity and keeping a distance from the Landmark versus contacting and affecting the Landmark" (43). Baydimirova labels the primary, central nodes of these two subgroups PASS BY and SURROUND AND ENCLOSE, respectively. Each of these is connected to the prototype meaning, and both branch out in multiple directions to form the two main subgroups Baydimirova refers to.

Both of these groups, in turn, consist of (metonymical) variations on the literal spatial

reading of the MOVE AROUND AN OBJECT meaning as well as metaphorical extensions of this meaning. Within the group based on the PASS BY meaning--itself a metonymic interpretation of the MOVE AROUND AN OBJECT meaning, focusing on only part of the Trajector's potential Path (the Figure's Path, in Talmy's typology)--there are two semantic branches based on both metonymic and metaphorical extensions of PASS BY: "The first one focuses the distance of the Trajector from the Landmark (Subcategories 3 OVERTAKE and 4 OUTDO), while the other focuses the bypassing itself which is metaphorically extended to avoiding / missing some crucial point of a situation (Subcategories 5 MISTAKE, 6 DECEIVE, 7 OVERDO and 8 METAPHORICAL PASS BY)" (43).

Here, Subcategory 3 remains a spatial interpretation of the prototype, with two crucial differences: both Trajector and Landmark are construed as moving, and a specific section of the schema, namely the part of the Trajector's path where it moves in front of the Landmark, is focused on, making this an example of a metonymic extension. Subcategory 4, on the other hand, is a non-spatial metaphorical extension of Subcategory 3, applicable to "a larger domain of human relations with various kinds of competitions" (48). Similarly, Subcategories 5-8 consist of the spatial PASS BY applied to other, non-spatial domains.

The SURROUND AND ENCLOSE meaning itself differs from MOVE AROUND AN OBJECT and PASS BY in its focus; while PASS BY foregrounds the movement of the Trajector and MOVE AROUND AN OBJECT is neutral in focus, SURROUND AND ENCLOSE foregrounds the Landmark and focuses attention on how it is affected by the Trajector. The subgroup centered on the SURROUND AND ENCLOSE meaning includes different meanings wherein the Landmark is foregrounded and given varying spatial construals; AFFECT A SURFACE involves a construal of the Landmark as a surface, while ENVELOP involves a construal of the Landmark as a three-

dimensional object. The meaning IMPOSE/ACQUIRE A NEW FEATURE has a metonymic relationship with SURROUND AND ENCLOSE focusing on the part of the interaction between the Trajector and Landmark in which the Landmark is acted upon. Finally, the subgroup includes metaphorical extensions of the spatial construals (METAPHORICAL SURROUND, METAPHORICAL ENVELOP).

The final node of the radial category model for *o-/ob-/obo-* is AFFECT A NUMBER OF OBJECTS, which, according to Baydimirova, "is motivated directly by the prototype" (51). This node is not a member of the PASS BY or SURROUND AND ENCLOSE subgroups because it instantiates a distinct image schema including multiple Landmarks, as opposed to the single Landmark in the base image schema for the other meanings.

The final finding from Baydimirova (2010) of relevance to the present study relates to the existence of Natural Perfectives with the prefixes *o-/ob-/obo-*. Once again, Natural Perfectives are one of the four types of perfective verbs posited by Janda (2007b), where the perfective form of the verb is basically equivalent to that of the imperfective, apart from the difference in aspectual construal. Baydimirova (2010) looks at Natural Perfectives with *o-/ob-/obo-* and finds that their distribution is isometric with that of all perfectives that take *o-/ob-/obo-*; in other words, all of their meanings fall within the radial category analysis based on the MOVE AROUND AN OBJECT prototype. This finding implies that *o-/ob-/obo-* is only prefixed to a semantically limited set of verbs that allow a spatial or metaphorical construal related to the MOVE AROUND AN OBJECT prototype or one of the 14 subgroups posed by Baydimirova (2010).

The main semantic subgroup into which the Natural Perfectives with *o-/ob-/obo-* fall is IMPOSE / ACQUIRE A NEW FEATURE. This is explained by the fact that, of all of the subgroups, this is the semantic class with the applicability to the widest range of domains. Yet IMPOSE /

ACQUIRE A NEW FEATURE is still a metaphorical extension of SURROUND AND ENCLOSE, which,

Baydimirova suggests, is the crucial factor allowing predicates with this construal to take *o-/ob-*

/obo-, rather than the prefix itself having simply become grammaticized and therefore applicable

to a wider range of predicates.

> In case of metaphorical extensions the semantic contribution of the prefix becomes relatively
> abstract and therefore less perceptible when compared to the simplex verbal base. Moreover, the
> simplex verbal bases of Natural Perfectives already have the meaning IMPOSE / ACQUIRE A
> NEW FEATURE (*pečalit'* 'sadden' – *o-pečalit'* 'sadden') and this creates the illusion of a zero
> semantic contribution of the prefix. However, what actually takes place here is the overlap of the
> prefixal and simplex base's semantics which makes it possible for the verb to attach this
> particular prefix.

(58)

In other words, according to Baydimirova (2010), even though *o-/ob-/obo-* might seem to

be able to function as a "semantically empty" prefix due to the fact that it functions simply as a

perfectivizer with many Natural Perfectives, it is actually always carrying the semantic spatio-

temporal information outlined in Baydimirova's radial category analysis.

As stated before, the present study does not make a similar claim regarding *na-*

predicates; investigating the semantic isometricity of *na-* Natural Perfectives with other *na-*

perfective predicates would require a more exhaustive compilation of predicates than this study

undertakes.[10]

The findings of the present study are similar to Baydimirova's findings with respect to o-

/ob-/obo-. Baydimirova's (2010) primary finding, that the cluster of aspectual prefixes *o-/ob-*

/obo- are polysemous, but share a single spatial prototype, and that the semantics of these

prefixes can be modeled using a radial category analysis, will be echoed in the present study,

which focuses on a prefix, *na-*, belonging to the same semantic and morphosyntactic class as *o-*

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[10] However, the radial category model proposed in this study for *na-* could be used in future research to confirm or
deny the existence of this isometricity and either lend support to or cast doubt on the Overlap Hypothesis.

/ob-/obo-. This study proposes a radial category model to account for the polysemous semantics of *na-* that is similar to the one proposed for *o-/ob-/obo-* in Baydimirova (2010), in terms of its structure. Both models establish a central prototype with a prototypical image schema and subcategories that are related to the central node via either metonymic modification of the image schema or metaphorical application of the prototypical image schema or a modified image schema to a non-physical domain.

3.3. Constructional/Diachronic approaches: Peskova

In addition to adopting the cognitive semantic approach taken by Baydimirova, the analysis here also includes a focus on diachronic approaches. The usage of the prefix *na-* falls along a grammatical-lexical developmental continuum for Russian aspectual prefixes and predicate types that is analogous to that proposed for Czech in Peskova (2013). Peskova (2013) analyzes frequency patterns of aspectual prefixes in Czech. Analyzing the occurrence of the aspectual predicates *za-*, *po-*, *na-*, *do-* with Complex Predicate types, including Natural Perfectives, Specialized Perfectives, and Complex Act Perfectives, as well as Simplex Predicate types (hypothesized to have developed through extended lexicalization of Complex Predicates) such as New Prefixed Perfectives, Perfectives Without Verbal Roots, and Prefixed Imperfectives, the study conducts an analysis of the level of grammaticalization and lexicalization of each prefix.

It is assumed that lexical items with higher token frequencies undergo lexicalization, given that the routinization of the combination of prefix and predicate will lead to greater and more widespread use (Trousdale 2008:163, from Lipka 2002). Conversely, aspectual prefixes that are more 'advanced' along the continuum toward grammaticalization will have a higher type frequency, with their decreasingly strong connection to their original spatial meaning (as a

preposition) allowing them to be used with a wider array of predicates (Bybee et al. 1994: 8, Traugott and Trousdale 2010: 36). Peskova (2013) writes: "This thesis argues that all semantic type categories in the analysis show variation in the semantic contribution of the prefix to the complex predicate. This variation reflects the continuum of gradual processes of grammaticalization that are constantly adapting to emerging constructional exemplars" (83). The present study claims, similarly, that the semantic contribution of *na-* to the complex predicate varies across semantic type categories.

These processes of grammaticalization occur in tandem with processes of lexicalization and entrenchment of given construals of a prefix/predicate compound. Peskova (2013) proposes the following continuum for predicate types in Czech, which allows for the mapping of aspectual prefixes onto the semantic space based on their co-occurrence with the distinct predicate types. It should be noted that the compositionality of the prefix/predicate compound decreases both from left to right and from top to bottom along the chart, so that Specialized Perfectives and Complex Act Perfectives are generally more overtly compositional and Natural Perfectives and Prefixed Imperfectives are generally less compositional. This decreased compositionality is a result of routinization and entrenchment of the prefix/predicate compound, in the case of the most lexicalized predicates, and semantic bleaching and broadening of the prefix, in the case of the most grammaticalized predicates.

Fig. 3.a. Co-occurrence of Czech verbal/aspectual prefixes with predicate types

Grammaticalization Processes

Less Grammaticalized → More Grammaticalized

Specialized Perfectives
Complex Act Perfectives

Natural Perfectives

New Prefixed
Perfectives

Perfectives Without
Verbal Roots

Prefixed
Imperfectives

DO-

PO-,

NA-

Less Lexicalized → More Lexicalized

Lexicalization Processes
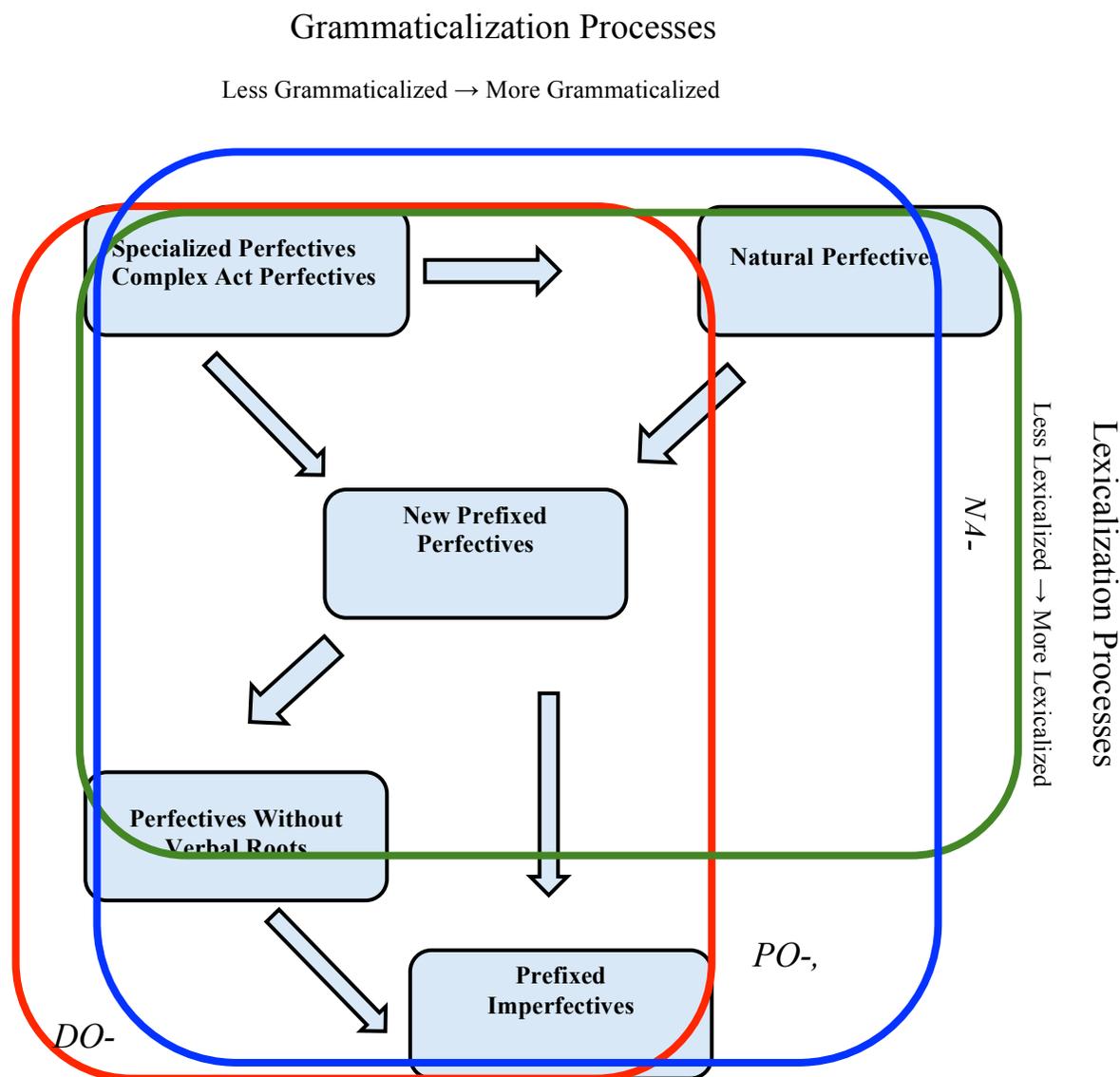
This approach of mapping aspectual prefixes and predicate types onto a lexical-grammatical continuum is well-suited to the description of grammatical aspect in Czech, as well as in Russian. It also resolves the problem of the inapplicability of the strict morphological dichotomy discussed in Section 3 to *na-* (i.e., whether it is a derivational or inflectional morpheme). This is because the morphosyntactic expression of verbal aspect in both languages is a diachronic process that is constantly in flux; specific combinations of prefixes and predicates

may occupy different points on a spectrum from less grammaticalized → more grammaticalized and less lexicalized → more lexicalized.

As a prefix, *na-* co-occurs with all of the predicate types mentioned above in Russian, as will be seen. Therefore, *na-* evinces various levels of grammaticalization and lexicalization in different constructions (i.e., with different predicates). Investigating which predicate types *na-* can be prefixed to and the comparative frequency of its co-occurrence with each type, as this study does, will allow it to be mapped onto the space of the lexical-grammatical continuum, as Peskova (2013) does with Czech aspectual prefixes. Peskova (2013) is taken as a model for this quantitative analysis of the distribution of *na-*, and Baydimirova (2010) is taken as a model for the qualitative analysis that follows.

In addition to mapping *na-* onto the lexical-grammatical continuum, this study will take the additional step of attempting to explain *why* the prefix *na-* occupies the space that it currently does on the lexical-grammatical continuum through the proposal of a radial category analysis for the several meanings of *na-*, and an explanation of the diachronic processes of semantic change that have led to the use of *na-* in different constructions with different predicate types, with different meanings. Most of these diachronic processes are outlined in the literature on grammaticalization and lexicalization, including Hopper & Traugott (1993), Bybee (2003) and (2004), Brinton & Traugott (2005), and Sweetser (1988), Lehmann (2002), and Trousdale (2008), among others.

4. The case of *na-*

This section will present an analysis of the use of *na-* as a verbal aspectual prefix in Russian. I begin with a description of the use of na- as an independent preposition in Russian. Section 4.2. provides a quantitative corpus-based analysis of *na,-* focused on *na-*'s distribution among various types of complex and simplex predicates in modern Russian. It will be shown that, in combination with different prbedicate types, *na-* has a range of uses and meanings which fall along different points of the lexicalization and grammaticalization continua in multidimensional semantic space.

A detailed qualitative synchronic description of the semantics of na- is presented in Section 5. This description supports a radial category analysis of *na-*.

4.1. *na-* as an independent preposition in Russian

As an independent preposition in Russian, *na* usually governs referents that are located below and adjacent to preceding referents in physical space, with a meaning similar to English 'on'.

1. *kniga   lezhi-t na   stol-e*
    book   lie-3SP on   table-Loc
    The book is lying on the table.

2. мир   на   пороге   эпохи гонки киберооружений
    mir   na   porog-e   epokh-igonk-i kiberooruzhenij
    world   on   threshold-Loc age-G race-G cyber arms-G
    The world is on the threshold of an age of a cyber-arms race.
                                                    (http://rus.postimees.ee/3382639)

In addition to this Locative meaning, *na-* can also describe an allative movement of a referent, governing the referent toward which the movement is oriented:

3. *on   posh-ol   na   rabot-u*
    he   go(Pf)-SMP   to   work-Acc
    He went to work.

4. *ja polozhi-l knig-u   na   stol*
    I   lay-SMP book-Acc   on   table(Acc)
    I laid the book on the table.

In the examples above, *na* indicates the location of the referents *stol* 'table' and *avtobus* 'bus' below and adjacent to other referents, *kniga* 'book' and *ludej* 'people', in physical space. This locative meaning is also morphologically coded by the (locative) Prepositional case ending *-e* on *stol* and *avtobus* in examples 1 and 2. In examples 3 and 4, *na* indicates that the referents *rabota* 'work' and *stol* 'table' serve as goals toward which the referents *on* 'he' and *kniga* 'book' are moving. This allative use of *na* is morphologically coded by the Accusative case feminine ending *-u* for *rabotu* (the Russian Accusative case masculine ending is indistinguishable from the Nominative case ending; both are Ø).

Some of the meanings of the prefix *na-* proposed in this model draw upon spatial meanings put forth in Brugman and Lakoff (1988), who focus on English *over.* In their discussion on the use of image schemas to describe the spatial semantics of adpositions, they write, "What is needed is an oriented cognitive topology with elementary structures (paths, bounded regions), orientations (vertical), and means of fitting them together in an overall gestalt" (3). Brugman and Lakoff propose a radial category model to account for all uses of *over* as both an adposition and a verbal prefix. They propose a prototypical image schema for the adposition *over* which consists of a Trajector, a Landmark, and a Path located above the Landmark physically. In contrast to *na-*, whose image schema requires the contact of the Path with the Landmark, "the central sense [of over] is neutral on the issue of contact" (295). The prototypical image schema for *na-* also differs from that of *over* in terms of the endpoint of the Path; while for *over* the endpoint is a horizontal boundary corresponding to the physical edge of the Landmark, for *na-*, there is either no endpoint of the Path implied (as in Subcategory 1), or the endpoint is the Landmark itself.

Another point of comparison between *na-* and *over* is in the relation of their senses as adpositions to the senses they possess as prefixes. While *over* has a diverse array of senses as an adposition, as a prefix, it seems to be less polysemous; in the words of Brugman and Lakoff, it "indicates excess" (317), through employment of the MORE IS UP and ACTIVITY IS A JOURNEY metaphors, as well as having less regular metaphorical uses as a prefix that draw upon specific uses of *over* as a adposition. In addition, *over* has contrastive metaphorical uses as a prefix and adposition that are not analogous to senses found with *na-*, such as, for example, *overlook* and *look over*, *overtake* and *take over*, *overcome* and *come over. na* as a preposition is less polysemous, with a Locative/Contact meaning similar to English 'on', and an Allative meaning similar to English 'to' (there is a more common Russian preposition, *v*, that corresponds more closely to Allative), which give rise to the meanings in the physical domain found in Subcategories 1 and 2 in the model for *na-* proposed below. Similarly to *over*, *na-* has metaphorical uses that employ these image schemas, but dissimilarly, it has other, more grammaticalized meanings (seen in Subcategories 6 and 7). We will now turn to a discussion of the usage of *na-* as a verbal aspectual prefix.

4.2. *na-* as a verbal aspectual prefix in Russian

As a verbal aspectual prefix, *na-* has semantic uses overtly related to its use as a preposition, as well as more semantically opaque functions that have developed diachronically through the metaphorical extension or metonymic modification of the original spatial meaning. In these cases, *na-* contains lexical information that changes the meaning of the root to which it is affixed, so that the *na-* + VROOT compound undergoes partial or full lexicalization and can no longer simply be considered an inflected form of the original verb root, but rather a new lexical item. In cases of full lexicalization, a *na*-prefixed predicate is no longer perceived as a

compound, but as a simplex verb stem that may subsequently undergo prefixation by another verbal prefix. Finally, on the MORE GRAMMATICALIZED end of the spectrum shown in Fig. 1, *na-* sometimes appears to function purely as a marker of perfective aspect in verbs such as *napisat'* 'write' leading to an interpretation of *na-* + VROOT as an inflected (perfective) form of the (imperfective) verbal root (e.g. *pisat'--napisat'*).

4.2.1. Analysis of Synchronic Lexicalization and Grammaticalization of *na-*

      This section examines the synchronic distribution of *na-* between different types of complex and simplex predicates. First, I explain the typology of complex and simplex predicates used in this study. Following this, will be an explanation of how predicates for this synchronic analysis were selected and classified within the typology. A preliminary quantitative distribution of *na-* among complex and simplex predicate types will then be given. Finally, a discussion of the path of development of *na-* and other Russian aspectual prefixes along the lexicalization and grammaticalization continua will take place and the synchronic position of *na-* will be mapped onto these continua.

4.2.1.1. Typology of Complex and Simplex Predicate Types

      The present study makes use of a modified version of the typology of predicate types outlined in Janda (2007b), Janda et al. (2007) and Croft (2012). The present study will borrow the terminology for predicate types used in Janda et al. (2007). These predicate types are based on semantic criteria that will be outlined in this chapter. All predicate types within this typology are located at different points along both the lexicalization and grammaticalization continua. As each predicate type is described, its position along both of these continua will be discussed.

4.2.1.1.1. Complex Predicate Types

      Complex predicates in Russian are classified into three types. In each of these types, a

prefix and a simplex predicate are combined to form another distinct predicate. This prefixed predicate is compositional; in other words, the semantic contribution of the prefix to the predicate as a whole can be discerned. However, each type differs in the semantic contribution of the prefix to the simplex predicate, as will be shown.

Specialized Perfectives (SP) are complex predicates in which the added prefix adds lexical meaning to the simplex root, resulting in a distinct lexeme. The lexical information added by the prefix may be overtly related to the prefix' spatial meaning when it is used as an independent preposition, or it might be related by metaphorical extension to the prefix' spatial meaning. In these cases, the semantic contribution of the prefix may not be transparent. Nevertheless, full lexicalization has not occurred, as the two components of the Specialized Perfective are still analyzed as contributing distinct, if opaque, meanings, and the resulting meaning of the predicate, though lexically distinct, is still related to the meaning of the unprefixed simplex predicate. Examples of Specialized Perfectives with *na-* include *nagovorit'* 'gossip' from *govorit'* 'speak', *najti* 'find' from *idti* 'go', and *napomnit'* 'remind' from *pomnit'* 'remember'.

Natural Perfectives (NP) are complex predicates in which the prefix does not appear to add lexical information but rather functions as inflectional/grammatical marker of perfective aspect. Whether this apparent lack of lexical contribution is due to full semantic bleaching and grammaticalization of the prefix, or a result of semantic overlap with lexical information that is already expressed in the simplex predicate (Janda et al. 2013:9), the function of a prefix such as *na-* in Natural Perfectives is at its most semantically general. As previously stated, the question of whether verbal prefixes have truly developed into fully grammaticalized markers of perfectivity in Russian is beyond the scope of this study. It is simply hypothesized here that

heavily grammaticalized uses of verbal prefixes such as *na-* are are a logical result of processes of implicature and inferencing that re-interpret them as markers indicating reaching a temporal goal or endpoint. Examples of Natural Perfectives with *na-* include *napisat'* 'write' from *pisat'* 'write', *narisovat'* 'draw, paint' from *risovat'* 'draw, paint', and *nauchit'* 'learn, teach' from *uchit'* 'learn, teach'.

Complex Act Perfectives (CAP) are predicates in which the prefix does not appear to add lexical meaning and instead delimits or profiles a specific part of the event described by the simplex root. This means that the function of prefixes in Complex Act Perfectives, as markers of a temporal aspectual category, is more grammaticalized than their function in Specialized Perfectives, but less grammaticalized (less generalized) than their function in Natural Perfectives.

One example of a Complex Act Perfective with *na-* is the predicate *napolnit'* 'fill' from *polnit'* 'fill'. While *napolnit'* and *polnit'* seem to express the same lexical meaning, *napolnit'* delimits the end of the event described, with a function closer to 'fill up'.

4.2.1.1.2. Simplex Predicate Types

Broadly, a simplex predicate can be defined as any predicate whose semantic meaning cannot be derived from its morphological constituents. This study, however, is particularly interested in prefixed simplex predicates; that is, simplex predicates with verbal prefixes such as *na-*. In these predicates, a process of semantic fusion of the (originally semantically distinct) prefix and verbal root has occurred and partial or full lexicalization has taken place. This study uses the typology of simplex predicate types found in Peskova (2013) and applies it to *na-* predicates in Russian. In this typology, simplex predicates with verbal prefixes are classified into three types. These types are distinguished in terms of their degree of compositionality and fall

along the lexicalization continuum from less compositional to non-compositional.

   New Prefixed Perfectives (NPP) are predicates in which the prefix contributes meaning that substantially changes the meaning of the original simplex predicate. As a result, the semantic compositionality of the predicate has become less transparent and less compositional and it has undergone partial lexicalization and reanalysis as a new simplex predicate. New Prefixed Perfectives, because they are analyzed as simplex predicates, can subsequently take additional prefixes, resulting in new complex predicates with 'stacked' prefixes. Some examples of *na-* in New Prefixed Perfectives include *prednaznachit'* 'designate, assign' from *naznachit'* 'appoint',[11] and *ponaehkat'* 'overrun' from *naekhat'* 'run over, criticize'.[12] Other possible New Prefixed Perfectives are *najti* 'find' from *idti* 'go on foot (Det.)' and *nakzat'* 'punish' from *kazat'* 'show'. Both of these predicates are considered in greater detail in 5; here it is sufficient to state that there are arguments for classifying these two predicates either as Specialized Perfectives or as New Prefixed Perfectives (as they are in the present study), depending on the extent to which one believes they have lexicalized. It can be argued that the addition of *na-* substantially changes the meaning of the verbal root, creating a new lexicalized, NPP. Ivanova (personal communication) notes that *najti* and *nakazat'* both can take additional prefixes, rendering *ponajti* 'gather in a group' and *ponakazat'* 'punish a little'.

   Perfectives Without Verbal Roots (PWVR) are simplex predicates consisting of a verbal prefix and a completely fossilized verbal root. In other words, the prefix has been attached diachronically to a verbal root that, synchronically, no longer functions independently. Because the fossilized verbal root is no longer recognizable as an independent predicate, Perfectives Without Verbal Roots are completely non-compositional and have undergone full lexicalization

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[11] From *znachit'* 'mean, signify'
[12] From *ekhat'* 'go by vehicle (determinate)

and reanalysis as (unprefixed) simplex predicates. An example of a Perfective Without Verbal Root with *na-* is *nachat'* 'begin'; *chat'* is a fossilized verbal root that has no independent function in modern Russian.

   Prefixed Imperfectives (PI) are prefixed simplex predicates that are non-compositional and, unlike (NPPs) and (PWVRs), have a default imperfective construal. Because the path of semantic development of prefixed simplex predicates involves the lexicalization and reanalysis of complex perfective predicates, the vast majority of prefixed simplex predicates retain this default perfective construal and derive imperfective partners through the process of imperfective infixation (e.g. *nachat'* -- *nachinat'* 'begin') or analogous prefixation of the imperfective partner of the non-prefixed root, if the non-prefixed root is itself perfective (e.g. *nanesti* -- *nanosit'* 'inflict, strike'). Therefore, the existence of such non-compositional prefixed imperfectives without perfective partners must be either a result of a prefixed perfective undergoing processes of both lexicalization and change in its default construal, or full lexicalization of an analogously prefixed imperfective partner (such as *nanosit'* above) occurring together with the loss of the prefixed perfective partner.

   Some examples of Prefixed Imperfectives with *na-* are the predicates *nablyudat'* 'observe' and *nabirat'* 'compose, levy, dial'. Both of these predicates are prefixed, imperfective and non-compositional; neither *-blyudat'* nor *-birat'* is used as an independent predicate in modern Russian.[13]

4.2.1.2. Data Selection and Methodology

   The scope of this semantic analysis of *na-* is limited to the most frequent *na*-prefixed

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[13] Although *nabirat'* is likely the derived secondary imperfective of *nabrat'*, 'gather, gain, dial', the present study considers the semantics of the two predicates as too distinct for them to be considered an aspectual pair. In other words, both predicates, originally aspectual partners, have undergone full lexicalization with different semantic effects, and are now considered independent lexemes.

predicates in the corpus. The 40 most frequently occurring predicates with *na-* in the Russian National Corpus (RNC) have been analyzed (all predicates used for the semantic analysis in this Chapter are presented in Appendix A). Although a much larger random sample of *na-*prefixed predicates in the RNC might give a more representative depiction of the overall distribution of *na-* among different complex and simplex predicate types, analysis of such a sample is beyond the scope of this study, and a similarly-sized random sample would not necessarily guarantee representation of all predicate types. Because using the most frequent *na-* prefixed predicates guarantees that the most entrenched predicates in each category will be represented, this study assumes that the comparative distribution of the most frequent *na-* predicates will be sufficiently representative of the comparative distribution of *na-*predicates in normal, non-specialized, non-idiosyncratic discourse.

Nevertheless, it is hypothesized that token frequency of a given predicate is, in fact, correlated with predicate type. Kuznetsova (2010a) examines type and token frequency of prefixed perfectives in the Russian National Corpus, showing that on average, Natural Perfectives account for 14% of the predicates formed by a given prefix in Russian (ranging from a low of 1% Natural Perfectives for *v-* to a high of 33% Natural Perfectives for *s-*). Additionally, the Natural Perfective predicates had much higher token frequencies in the RNC than Complex Act Perfective or Specialized Perfective predicates (median frequency of 107 for Natural Perfectives, compared to 9.7 for the other prefixed perfectives).

Kuznetsova's (2010a) findings lead us to believe that a sample of the most (token) frequent predicate types will include a higher percentage of Natural Perfectives than does the set of *na-* predicates as a whole. This simply implies that the larger the sample, the more Specialized Perfectives and Complex Act Perfectives it will include, as these are an open class including, in

the words of Endresen et al. (2012) "occasionalisms" and "marginal verbs" (15). As stated above, it is believed that the type frequency distribution of *na-* predicates shown here more accurately reflects the comparative frequencies of *na-* predicates used in normal discourse.

Of the 40 most frequent *na-*predicates in the RNC, 31 were lexically distinct independent complex or simplex predicates and 9 were derived secondary imperfective partners of a lexically independent *na-*predicate.[14] Predicates with the impersonal suffix *-sya* or its allomorphs were considered lexically distinct from their non-suffixed variant for the purposes of this study. This is because *-sya* may give lexical meaning to a predicate, as will be illustrated in Chapter 5. Of the nine derived secondary imperfective predicates, six were the derived aspectual partners of complex predicates in the top 40 most frequent *na-*predicates and therefore do not appear in the quantitative distributional analysis. The three derived secondary imperfective predicates whose perfective partners fell outside of the top 40 most frequent *na-*predicates were considered to be representing the perfective partners from which they derive; as a result, additional predicates were added on the graph to the complex predicate classes to which their perfective partners belong.

4.2.1.3. Classification of Predicates into Types

This section briefly describes the criteria used to classify predicates in the sample in order to ascertain the type frequency of *na-*. While the semantic criteria that differentiate the different complex and simplex predicate types are outlined above in 4.2.1.1, there remain a few predicates for which further disambiguation on the basis of morphosyntactic criteria is necessary in order to determine their classification. These are cases where it is unclear whether the *na-*prefixed complex predicates meet the semantic criteria for Natural Perfectives (i.e., *na-* in these predicates functions as a simple marker of perfectivity) or if they are Specialized or Complex Act

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[14] Morphosyntactic derivation of secondary imperfectives is described in detail in 4.2.1.3.2.

Perfectives (i.e., the function of *na-* is less grammaticalized). To be classified as a Natural Perfective for the purposes of the present study, a predicate had to show no significant lexical (semantic) difference between the unprefixed verbal root and the prefixed complex predicate. This was ascertained by a search of the each predicate in the data in the Russian Academic Dictionary (dic.academic.ru), to see if prefixed perfectives were listed under the same entry as their imperfective base forms (indicating that the difference between the two forms is merely grammatical) or whether they had their own entry (indicating that they were lexically distinct from the base form), as well as meeting the morphosyntactic criteria for Natural Perfectives described below.

The two constructional tests described in the following section, Section 4.2.1.3.1., were applied to ascertain the level of grammaticalization of the prefix *na-* in typologically ambiguous complex predicates and correctly classify such predicates as Natural Perfectives, Specialized Perfectives, or Complex Act Perfectives.

4.2.1.3.1. Participant Role Assignment

One way to ascertain the level of grammaticalization of *na-* in typologically ambiguous *na*-predicates is to examine the morphological case assigned to the various participants in constructions with the predicate in question. In Natural Perfectives, verbal prefixes such as *na-* have been grammaticalized and do not modify the lexical meaning of the verbal root to which they are prefixed. The result of this is that participant roles, expressed morphosyntactically through case assignment, remain the same regardless of whether the perfective or the imperfective construal of the predicate is being used. This is shown in examples (5a-5b). Specialized Perfectives and Complex Act Perfectives, on the other hand, involve a shifting of participant roles expressed through a change in case marking, as seen in example (5c):

5.a. Imperfective Simplex Predicate Construction

В	престольный	праздник	**готовлю**	всё —	пи**в**о,	пиро**г**и…
V	*prestol'n-yj*	*prazdnik*	***gotovl-yu***	*vsyo*	*pivo*	*pirogi*
on	feast-Adj	holiday	prepare-1SG	all	beer(Acc)	pies(Acc)

On the feast day, I prepare everything--beer, pies…

5.b. Natural Perfective Construction

В	престольный	праздник	**приготовлю**
V	*prestol'n-yj*	*prazdnik*	***prigotovl-yu***
on	feast-Adj	holiday	prepare(Pf)-1SG

On the feast day, I will prepare

всё —	пи**в**о,	пиро**г**и…
vsyo	*pivo*	*pirogi*
all	beer(Acc)	pies(Acc)

everything--beer, pies…

5.c. Complex Act Perfective Construction

В	престольный	праздник	**наготовлю**
V	*prestol'n-yj*	*prazdnik*	***nagotovl-yu***
on	feast-Adj	holiday	prepare(Pf)-1SG

On the feast day, I will prepare

все**г**о —	пи**в**а,	пиро**г**ов
vs-ego	***piv-a***	***pirog-ov***
all-Gen	beer-Gen	pies-Gen

everything--beer, pies…

(From Nikolai Amosov, *Golosa vremyon*, 1999)

The above examples show the prototypical participant roles for the predicate *gotovit'*
'prepare, cook': in both the construction with the simplex imperfective in (5a) and the
construction with the Natural Perfective *prigotovit'* 'prepare, cook' (5b), the Patients *vsyo*
'everything', *pivo* 'beer' and *pirogi* 'pies' receive (unmarked) accusative case. In the
construction with the Complex Act Perfective (5c), on the other hand, the genitive case marking
of the Patients reflects a change in the semantic construal of the participants. In this way,
constructional analysis reveals a slight difference in meaning between *prigotovit'* and

nagotovit'[15] and allows for the classification of *nagotovit'* as a Specialized Perfective.

4.2.1.3.2. Derivation of Imperfectives

Another constructional test for the disambiguation of Natural Perfectives and other complex predicate types is whether the ambiguous prefixed predicate derives an imperfective partner through imperfective infixation. Natural Perfectives such as *narisovat'* 'paint' and *nauchit'* 'teach, learn' being analyzed as an perfective aspectual partners of the unprefixed simplex predicates *risovat'* 'paint' and *uchit'* 'teach, learn' do not derive secondary imperfectives through this process.[16] However, many complex predicates that do not exhibit very significant lexical difference from the verbal root derive secondary imperfectives, showing that they are, in fact, analyzed as distinct lexemes in modern Russian. An examples of this is the verb *nazvat'* 'call', which could possibly be analyzed--despite some slight lexical differences--as the Natural Perfective form of the simplex root *zvat'* 'call'. The fact that *nazvat'* derives the secondary imperfective *nazyvat'* clarifies its status as a Specialized Perfective.

4.2.1.4. Distribution of Type Frequencies with *na-*

This section presents the pattern of distribution of the complex and simplex predicate types discussed in 4.2.1.1. with the aspectual prefix *na-*. Such an analysis of the pattern of distribution of *na-*predicates quantifies the extent of the synchronic grammaticalization and lexicalization of *na-* as a verbal prefix. The relation of the distributional pattern to ongoing grammaticalization and lexicalization processes in predicate types will be discussed.

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[15] Referring again to Filip (2005), the difference is probably one of definiteness of the Patients of the respective predicates.
[16] The Complex Act Perfective *vyuchit'* 'learn', on the other hand, derives the secondary imperfective *vyuchivat'* 'learn'.

Fig. 4.a. Type frequencies with the prefix *na-*
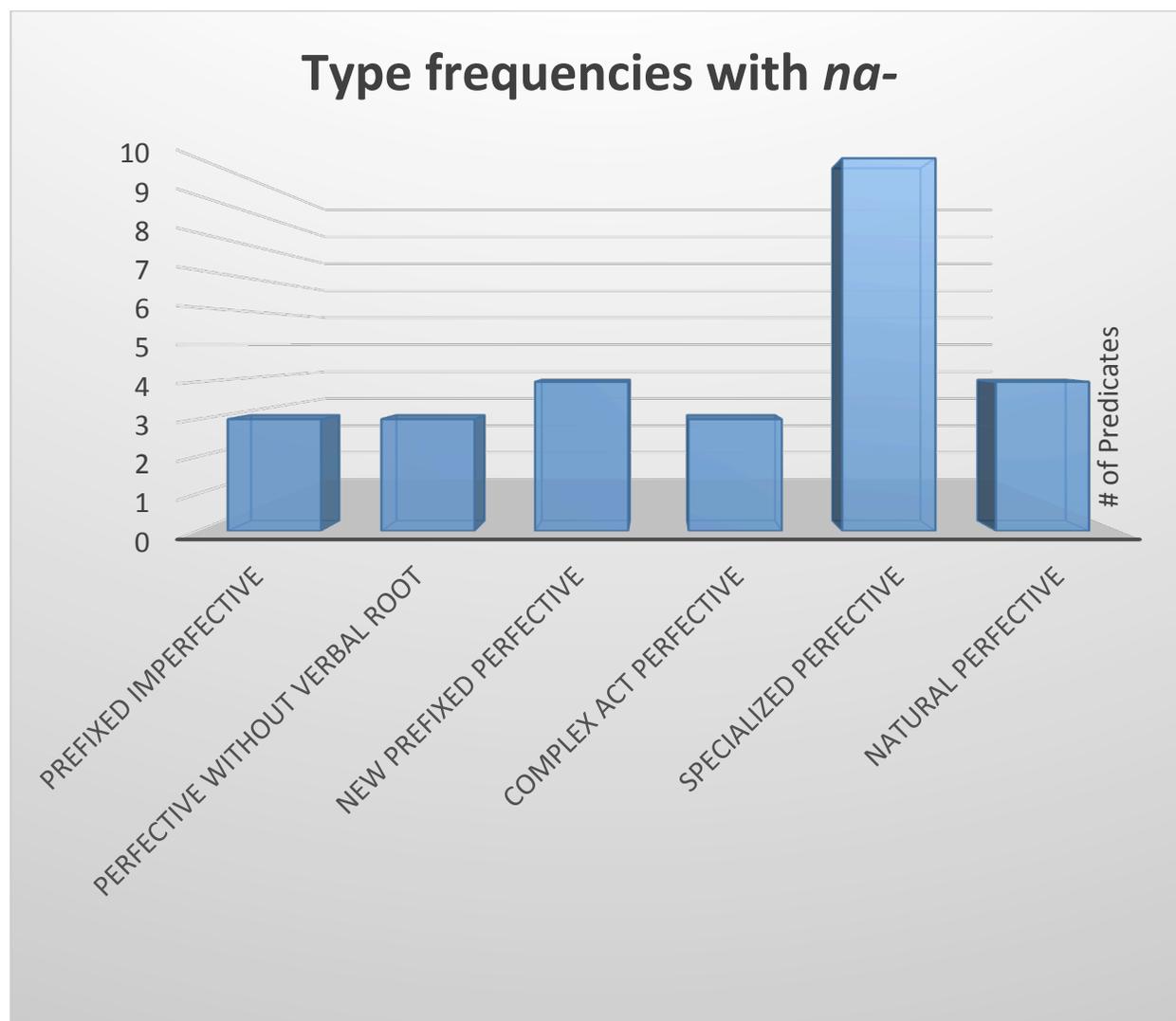
The distributional patterns of predicates with *na-* reveal a fairly low degree of

grammaticalization and lexicalization of the prefix. Of the 27 most frequent *na*-predicates that

occur on the chart, 10 (37%) are Specialized Perfectives, which fall at both the LESS

GRAMMATICALIZED end of the grammaticalization continuum and the LESS LEXICALIZED end of

the lexicalization continuum. Four (4) of the 27 predicates (14.8%) are Natural Perfectives

exhibiting grammaticalization of *na-*, and 10 predicates (37%) are simplex predicates exhibiting

full or partial lexicalization of *na-*. As a whole, the predicates in this sample rarely exhibit an advanced degree of grammaticalization of the prefix, and the prefix is more likely to undergo full or partial lexicalization with predicates than full grammaticalization. This suggests that the distributional pattern of *na-*'s overall use is skewed toward the contribution of lexical (more often than grammatical) meaning within either a complex or a lexicalized simplex predicate.

These results are corroborated by Peskova's (2013) findings for type frequencies for the Czech prefix *na-*, which also indicate relatively low frequency of Natural Perfectives and higher frequencies of Specialized Perfectives and Natural Perfectives. Though the semantics of spatial/aspectual prefixes are not fully analogous cross-linguistically, further research involving similar prefixes in other Slavic languages would provide an interesting basis for comparison with Russian *na-*.

4.2.1.5. Position of Predicate Types along Grammaticalization and Lexicalization Continua

This section will briefly discuss the position of the predicate types discussed above along the grammaticalization and lexicalization continua. Location of predicate types along these continua will allow us to hypothesized diachronic paths of development for predicates along both of these continua.

4.2.1.5.1. The Grammaticalization Continuum in Complex Predicates

The grammaticalization of verbal prefixes in complex predicates takes place along a continuum from LESS GRAMMATICALIZED to MORE GRAMMATICALIZED. This means that while general typological distinctions can be drawn between predicate types that exhibit different levels of grammaticalization of verbal prefixes, in reality, the level of grammaticalization of a prefix such as *na-* may differ from predicate to predicate.

Fig. 5.b. Grammaticalization Continuum in Complex Predicates

Less Grammaticalized   More Grammaticalized

Specialized Perfectives   **Natural Perfectives**
Complex Act Perfectives

In Natural Perfectives, verbal prefixes appear to be contribute no additional lexical information; in other words, their function has been grammaticalized and generalized. In Specialized Perfectives and Complex Act Perfectives, on the other hand, verbal prefixes contribute lexical information that changes the meaning of verbal root.

4.2.1.5.1. The Lexicalization Continuum in Simplex Predicates

Similarly to grammaticalization, lexicalization is an ongoing dynamic process that occurs along a continuum. Location along the lexicalization continuum is a function of speaker construal and frequency of use and entrenchment of the lexical item in question. Consequently location of *na*-prefixed predicates may vary from one prefixed predicate to another (or even one speaker to another).

Fig. 5.b. Grammaticalization Continuum in Simplex Predicates

Less Lexicalized   More Lexicalized

New Prefixed Perfectives → Perfectives Without Verbal Root → Prefixed Imperfectives
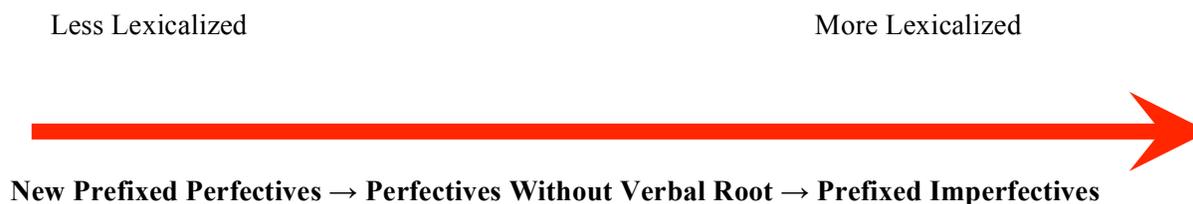
In the typology used by the present study to classify prefixed predicates, New Prefixed Perfectives fall on the LESS LEXICALIZED end of the spectrum, with Perfectives Without Verbal

Root and Prefixed Imperfectives closer to the MORE LEXICALIZED end of the continuum. New

Prefixed Perfectives have more evident semantic compositionality, indicating that the verbal

prefix has incompletely fused with the root, whereas PWVRs and PIs are completely

semantically opaque, indicating that complete fusion has taken place. The language change

processes by which these more lexicalized predicate types are derived have been previously

discussed; here it is sufficient to state that full or complete lexicalization of predicates occurs due

to a combination of diachronic shift in the meaning of the predicate with a loss of speaker ability

to identify the constituent semantic components of the originally prefixed predicate.

4.2.1.6. Path of Development of Aspectual Prefixes

The grammaticalization and lexicalization continua can be simultaneously represented as

two dimensions of the same diachronic semantic developmental space. Peskova (2013) states

that lexicalization of a prefix "can take place at any stage of grammaticalization of a Prefixed

Perfective predicate in predicates of high token frequencies that yield a high degree of

entrenchment and a consequent semantic shift" (45). In the subsequent section, the path of

development of *na-* will be mapped onto the grammaticalization and lexicalization continua.

4.2.1.7. Mapping *na-* onto the Path of Development

In this section, the development of *na-* along the grammaticalization and lexicalization

continua will be represented using the schema put forth in Peskova (2013).

Fig. 4.c. Co-occurrence of Russian verbal/aspectual prefix *na-* with predicate types

Grammaticalization Processes

Less Grammaticalized → More Grammaticalized

Specialized Perfectives	**Natural Perfectives**

New Prefixed Perfectives

Perfectives Without Verbal Roots

Prefixed Imperfectives

NA-

Less Lexicalized → More Lexicalized

Lexicalization Processes
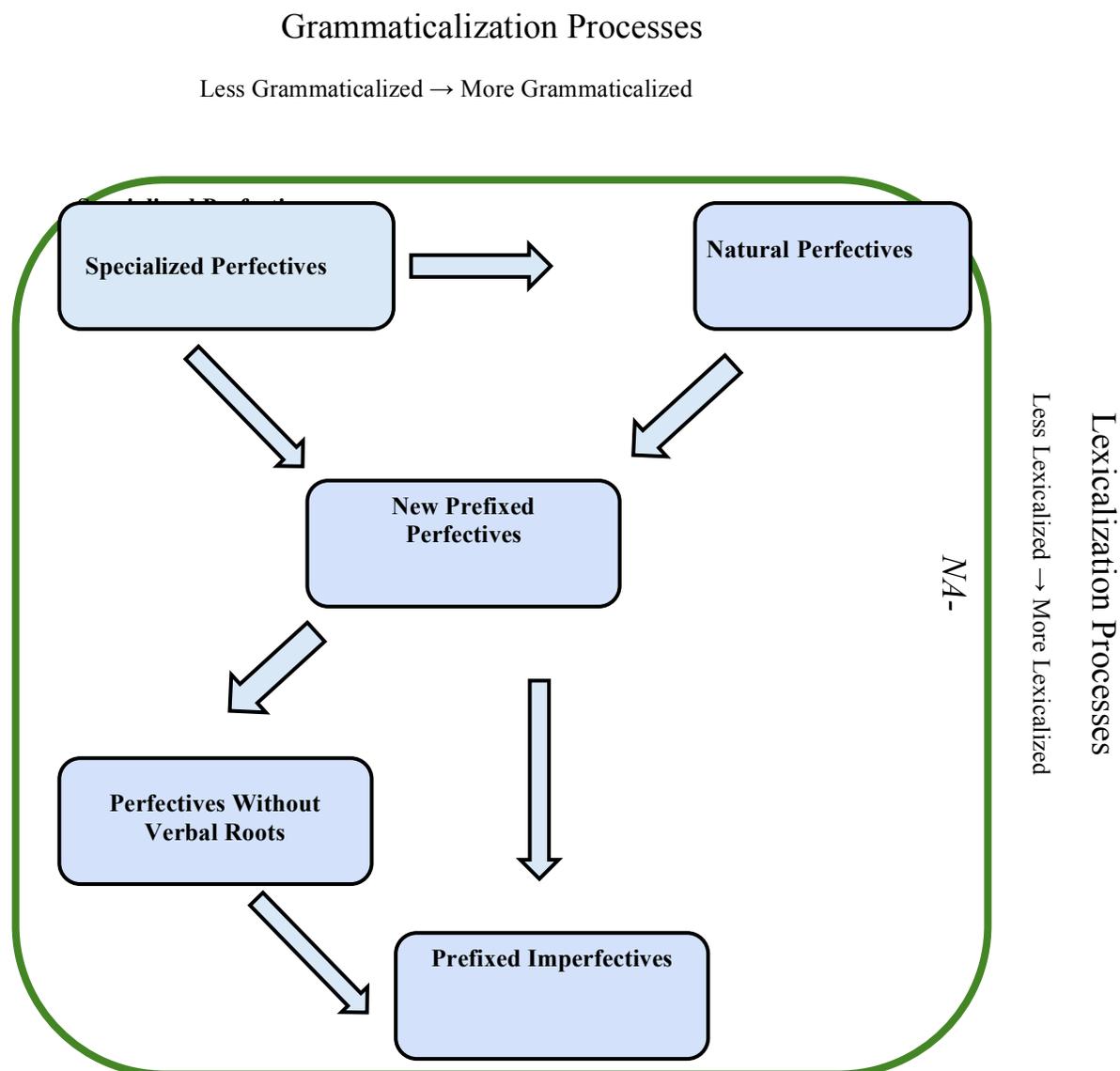
Although it is most frequently used in Specialized Perfectives, *na-* has undergone full lexicalization in several predicates and full grammaticalization in others. As is shown in Fig. 4.c, synchronically, *na-* occurs with predicates in all stages of lexicalization and grammaticalization.

5. A radial category analysis of *na-*

This section, following Baydimirova (2010) and others, will propose a radial category model to account for the polysemous semantics of *na-*. It will be shown that all uses/meanings of *na-* are related, through either metonymy or metaphor, to a central prototype: MOVE OVER AN OBJECT (1). An image schema for this prototype will be shown, giving a visual representation of participant relations in events represented by prototypical *na*-prefixed predicates.

Following this, each node of the radial model will be briefly discussed with examples and a discussion of possible processes of diachronic usage and cognition that have led to its differentiated status. Image schemas for other subcategories in the physical domain, representing slightly modified variations of the prototypical image schema, will be shown (2-3): these are related by metonymy to the prototype. Uses of *na-* related to the prototype through metaphor do not have distinct image schemas, as all of these uses involve the application of the same physical image schemas to non-physical domains.

The model proposed in this study is not intended as the final word on the semantics of *na-*; any model, by definition, can only approximate the structural complexity of the phenomenon it is modeling, let alone a model of cognitive semantic structure. Arguments could be made for the combination of some of the subcategories proposed here into a single subcategory; likewise, arguments could be made for the further division of several of the subcategories. This model takes into account definitions for *na-* predicates found in several dictionaries, including the Oxford Russian Dictionary and the Russian Academic dictionary online database, and examples of *na-* predicates in use from the Russian National Corpus, as well as examples from consultation with native speakers, in establishing a semantic motivation for each category. Janda and Lyashevskaya (2013) state,

The radial category profiling methodology used in Baydimirova (2010) and Endresen et al (2012)

could in principle be extended to all the prefixes, but in the case of the larger prefixes would involve labor-intensive attention to many thousands of verbs. The meanings of the larger prefixes (particularly *po-*, which is becoming a "default" perfectivizer in Russian; cf. Dickey 2006 and 2007), are also more semantically diffuse and more challenging for a radial category profiling analysis….Note, however, that some studies have explored radial categories also for the larger prefixes (LeBlanc 2010 on *po-*; Janda 1986, Shull 2003, Zaliznjak 2006, and Braginsky 2008 on *za-*).

(10)

The model proposed in the present study resolves this issue by taking a slightly different approach from Baydimirova (2010) and Endresen et al (2012) to the classification of predicates in which *na-* has a lexical meaning. The present study establishes three subcategories of predicates within the physical domain, with distinct image schemas, in which *na-* has a lexical meaning. I then propose three subcategories of predicates that metaphorically instantiate each one of these three image schemas; each one of these subcategories contains predicates in non-physical domains in which *na-* contributes lexical meaning. Unlike the studies previously mentioned, the present study does not attempt to differentiate lexical meanings of *na-* within these subcategories; theoretically, there is an infinitude of events that can be (metaphorically) construed as the Path component of a complex motion event and an infinitude of types of individuals or entities that have the potential to be construed as Trajectors and Landmarks, each rendering a slightly variable lexical meaning of *na-* for predicates in non-physical domains. This study presents *na-* as contributing lexically to predicates in non-physical domains through instantiation of one of the physical image schemas, and considers any further differences in the meaning of *na-* across predicates in these subcategories attributable to the construal differences of each individual predicate. I only further divide the subcategories to differentiate predicates in which *na-* has a more grammaticalized (Resultative, Perfective) function--predicates in which, nevertheless, a physical image schema is still instantiated.

In conclusion, the use of broader categories in the model proposed in this study is intended to encompass any variation that might emerge from a study of "many thousands of verbs", and the further subdivision of the lexical meaning of *na-* with predicates in non-physical domains is left to future research.

Fig. 5.a. Radial category model of the semantic network of *na-*

Radial Category Model for *na-*

3. CAUSE TO MAKE CONTACT WITH AN OBJECT OR SURFACE
nalozhit' 'put/lay on/over'
nadet' 'wear, put on'
namazat' 'spread'
nabrosit' 'throw on'
nakinut' 'throw/cast on/over'
nakleit' 'paste on/over'

8. METAPHORICAL CAUSE TO MAKE CONTACT WITH AN OBJECT OR SURFACE; CAUSATIVE
nabrat' 'gain, gather'
naskuchit' 'bore'
napomnit' 'remind'

1. MOVE OVER AN OBJECT OR SURFACE
nabezhat' 'run over/on'
naekhat'/naezzhat' 'go over/on'
naplyt' 'float over/on'
napolzti 'crawl over/on'
nakhlynut' 'gush over/on'

2. MOVE AGAINST/MAKE CONTACT WITH A SURFACE
nabrat' 'dial a number'
nazhat' 'push/press down'
nachistit' 'polish'
nadushit' 'perfume' (v.)
natolknut'sya 'bump into'
nastupit' 'step on'

4. METAPHORICAL MOVE OVER AN OBJECT OR SURFACE
napravit'sya 'direct/guide oneself',
nasolit' 'annoy'
naekhat' 'criticize, bother smb.'
naezzhat' 'visit (smb.) repeatedly'

5. MTPH. MOVE AGAINST/MAKE CONTACT WITH A SURFACE (INTERFERE/INFRINGE)
najti/najtis' 'find/be found'
naboltat' 'gossip about smb.'
nakhodit'/(sya) 'locate/be located'
nastroit' 'adjust'
nabresti 'happen across, come upon'
nazakat' 'punish'
natolknut'sya 'come across, come upon'
nazvat' 'call by other name'
natknut'sya 'stumble upon'
nagovorit' 'talk about smb.'
naskochit', 'run into'

6. DO SOMETHING UNTIL REACHING CHANGE OF STATE (RESULTATIVE)
napolnit' 'fill up'
nalit' 'pour, top off'
nasytit' 'sate, saturate'
namylit' 'cover with soap'
namaslit' 'cover with oil/butter'

7. DO SOMETHING A LOT; TO EXHAUSTION (COMPLETIVE) (PERFECTIVE)
nagovorit'sya 'say enough'
nakupat'sya 'bathe enough'
naest'sya 'eat enough'
napit'sya 'drink enough'
nadyshat'sya 'breathe enough'
napisat' 'write' (Pf.)
narisovat' 'draw' (Pf.)

It is important to note that almost all of the predicates under discussion in this section remain complex predicates, whether Specialized Perfectives, Complex Act Perfectives, or Natural Perfectives, despite the fact that many predicates that apply the complex motion event image schema metaphorically may be semantically opaque compositionally.[17] In other words, all predicates discussed here can be understood as literally or metaphorically applying one of the image schemas for complex motion events with multiple participants outlined in nodes (1-3). The definition of simplex predicates as predicates where the semantic contribution of the

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[17]All simplex predicates with *na-* are assumed to have followed a similar lexicalization path: metaphorical application of a complex motion event image schema leading to increasing semantic opacity of the prefix and eventual reanalysis of the *na-*prefixed predicate as a single verbal root.

individual morphosyntactic components is no longer predictable seems to preclude the inclusion of simplex (i.e., completely lexicalized) predicates in the discussion of this model. Such predicates have undergone lexicalization, semantic incorporation of the prefix with the verbal root and re-analysis as a single verbal root, and as a result no longer instantiate the image schemas for complex motion events presented in this discussion. As a result, a radial category model cannot fully account for the use of *na-* in such lexicalized predicates.

Nevertheless, the present study supposes that all *na-*prefixed predicates instantiated one of the complex motion event schemas outlined here at the beginning of their diachronic development, whether literally or metaphorically[18], and continue to instantiate them as they undergo the lexicalization process. Because lexicalization occurs along a continuum, there are many cases of partially lexicalized predicates, such as NPPs, where the semantic compositionality of the predicates is not fully opaque and it is still possible to discern how elements of the image schemas have been mapped onto the participant structure of the event described by the predicate. As a determination of the exact point at which such partially lexicalized predicates cease to cognitively instantiate a complex event image schema is beyond the scope of this study, the model allows for the inclusion of some of these predicates, of which several, most prominently *najti* 'find', will be discussed in this chapter.

The radial category model for *na-* proposed in this study has 8 distinct nodes. Each node describes a specific, semantically distinct function/meaning of the prefix *na-* as it occurs with a specific group of predicates. The organization of the nodes within this model will now be discussed.

As stated above, (1) is the prototype, and its image schema is the core image schema. Of

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[18] This study argues that even for predicates in which *na-*'s function is completely grammaticalized as a marker of Perfective aspect (Subcategory 7 in the model), the complex motion event image schema for (2) is instantiated.

the remaining nodes, (2-3) have distinct image schemas. The image schema for (2) profiles a distinct subsection of the Path component of the core image schema; therefore (2) is directly connected to (1). The image schema for (3) profiles the exact same part of the core image schema as (2); however, the image schema for (3) adds another participant to the event, an Agent acting on the Trajector.

Subcategories (1-3), discussed in 5.1., all contain predicates describing action in the physical domain and are related to one another via metonymical image schema transformations. All other subcategories contain predicates describing action in non-physical domains; predicates in these categories metaphorically apply the same image schemas in (1-3) to these other domains; in other words, they construe events and event participants in other domains as complex motion events and participants.

The links between nodes in the model correspond to metonymic or metaphorical links between the senses of *na-*. Subcategories (4) and (5) both include predicates that metaphorically apply the image schemas for (1) and (2) in idiosyncratic ways, and are closely related to one another; the relationship between these two categories is perhaps better captured by the idea of a continuum. The major difference between the two categories is in the duration of the event described, which, in the case of many of the predicates in these subcategories is variable. With this in mind, it can be stated that predicates such as *nagovorit'*, *naboltat'*, and *nakazat'* fall, at different times, into either subcategory.

Subcategories (2) and (5-7) are related to one another through their use of a common image schema. Subcategory (2) contains predicates that apply this image schema literally, i.e. to physical events, while Subcategory (5) contains predicates that apply it metaphorically. Subcategories (6-7) are distinct from Subcategory (5) in that the application of the image schema

overtly creates a Result or Perfective construal or implicature for *na-*; in Subcategory (5), the application of the image schema is far less regular than in (6-7).

As a result, the senses (functions) of *na-* put forth in this model can themselves be divided into 4 general categories:

- a marker encoding spatial location of an event (Specialized Perfective) (1,2,3)

  bezhat' 'run' → *nabezhat'* 'run on'

- a marker encoding perfectivity + additional lexical information, changing the meaning of the verbal root (Specialized Perfective) (1-8)

  ponmit' 'remember(Imp.)' → *napomnit'* 'remind(Pf.)'

- a marker encoding perfectivity + additional temporal/aspectual information such as Completive or Resultative (Complex Act Perfective) (6,7)

  lit' 'pour(Imp.)' → *nalit'* 'fill(Pf.)

- a fully grammaticalized marker of Perfective aspect (Natural Perfective) (7)

  pisat' 'write(Imp.)' → *napisat'* 'write(Pf.)'

In addition to these senses of *na-*, all of which involve predicates in which the semantic contribution of *na-* is fully or partly semantically transparent, there are instances of fully lexicalized *na-* predicates where the contribution of *na-* to the verb stem is fully opaque:

- a semantically opaque prefix to a fully lexicalized predicate

  chat'* → *nachat'* 'begin(Pf.)'

Finally, there are some *na-* predicates that themselves are polysemous and occur in more than one subcategory. Many verbs, such as *naekhat'* 'go on/criticize/bother smb.' and *nastupit'* 'step on/attack/infringe' can occur both with a literal meaning in the physical domain as well as with a metaphorical meaning in non-physical domains. Verbs of 'finding' and 'location',

discussed in (5), can refer to events both in physical and non-physical domains as well, although the difference may not be immediately apparent. It may be more helpful to think of a continuum of 'finding' and 'location' events. Events involving physical contact between a Trajector and a Landmark, such as finding a pen or a ball, are at the 'physical' end of the continuum, events involving physical movement but not contact, such as finding a building, in the middle, and events involving no physical movement or contact, such as finding a solution to a problem are at the 'metaphorical' end. For the purposes of this study, I group these predicates in Subcategory 5, while acknowledging that they can at times fall under Subcategory 2.

Several other *na-* predicates are polysemous and possess distinct metaphorical meanings. To give a few examples, *nastroit'*, which can occur in (5) with a meaning of 'adjust' and in (7) with a meaning of 'build enough/build many (smth.)', *nagovorit'*, which can occur in (5) with a meaning of 'gossip, say outrageous things' and in (7) (as *nagovorit'sya*) with a meaning of 'talk enough', and *naboltat'*, which can occur in (5) and (7) with meanings of 'gossip about smb.' and 'chat enough', respectively. Two factors that seem to trigger polysemy in *na-* predicates are the presence of the reflexive clitic *–sya* (which will be briefly discussed in the discussion on Subcategory (7)) and Genitive/Partitive case-marking on nominal arguments. Ivanova (personal correspondence) notes that the meaning of *ponajti*, for example, varies depending on the case taken by the nominal arguments: in a sentence such as *Mnogo tam naroda sjuda ponashlo* 'A lot of people gathered there', with the subject *naroda* in Genitive/Partitive case, *ponajti* has a meaning of 'gather', while in the sentence *Naproverjali, narushenij ponashli* 'they checked a lot and found a lot of violations', *ponajti* seems to be a perfective form of *najti* with a meaning of 'find'. While undoubtedly interesting and relevant to the aspectual behavior of *na-*, a full description of the effects of *–sya* and case marking on the semantics of *na-* predicates is beyond

the scope of this study.

This model includes not only the 40 most frequent *na-* predicates in the Russian National Corpus (shown in Appendix A), but also other predicates found in the Russian Academic Dictionary. It therefore is proposed to account for all *na-* predicates. As discussed above, the least frequent *na-* predicates are likely to be Specialized and Complex Act Perfectives, including "occasionalisms" and "marginal verbs", which would likely be classified under Subcategories (5), (6), or (8), although there could also be low token frequency motion verbs under Subcategories (1-3). Again, further subdivision of the categories that include predicates where the semantic contribution of *na-* is less grammaticalized (and less semantically transparent), such as (4), (5), and (8), is left to future research.

5.1. *na-* used in complex motion events

This section will discuss nodes (1-3) of the radial category model for *na-*. Predicates in these subcategories describe action in the physical domain; in other words, movement through space. Here, the function of *na-* when it is used with predicates describing movement through space will be shown to be very similar to its function as a preposition (equivalent to English 'on' or 'over'); this indicates that the contribution of *na-* to predicates in (1-3) is semantically transparent. As a result, the resulting predicates formed from *na-* + MOTION VERB are semantically compositional (less lexicalized). Additionally, because *na-* retains its spatial meaning in these cases, its function in (1-3) can be described as less grammaticalized.

5.1.1. Subcategory 1: MOVE OVER AN OBJECT OR SURFACE

With several motion verbs, *na-* simply indicates that the motion or movement described by the verb is taking place on top of a surface. Below is the image schema for this type of event. This image schema represents the prototypical event structure for complex events with predicates

that take *na-*; in other words, every other semantic usage of *na-* represented in the radial category model makes reference, in whole, or in part, to this schema. I have used Baydimirova's (2010) labeling terminology for image schemas: 'TR', 'Trajector', corresponds to Talmy's (2003a) and Croft's et al. (2010) Figure, and 'Landmark' constitutes a necessary part of the 'Ground' that is nevertheless distinct from the 'Ground' as a whole (the white circle), to allow for the distinction between ordinary motion or movement and motion or movement 'on' something (i.e., the Landmark).

Fig. 5.b. Image Schema for Subcategory 1 MOVE OVER AN OBJECT OR SURFACE
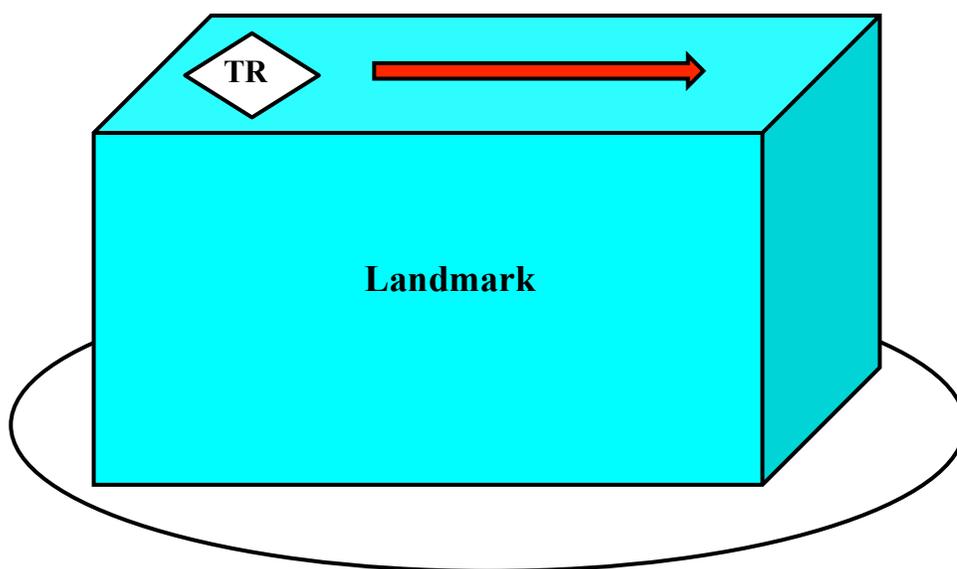
This image schema visually represents a complex motion event with two participants--a Trajector and a Landmark (labeled)--and a Path along with the Trajector moves (red arrow). The Path, in Russian, is expressed by a verbal predicate. Other information about the Path (the framing component), such as, in the case of Fig. 5.b, its position spatially above the Landmark, is expressed by a prefix to the predicate, such as *na-*, and possibly an additional preposition.

This core schema for complex motion events with *na-*, which is also the prototypical image schema for complex events in all domains involving *na-*, is instantiated and activated by

the prefixation of *na-* to several verbs of motion.

The verb *ekhat'* is a basic (determinate) verb of motion referring to movement by vehicle.

Below is an example of *ekhat'* in its unprefixed form:

6.   Сади́лись   в   по́езд и   **е́хали** науга́д—
     sadi-li-s'   *v*   *poezd* *i*   **ekhali** *naugad*
     sit-PlP-Rfl   on   train   and   **go-PIP** random
     They got on the train and went at random--

     в   Шувалово,   Репино,   Сестроре́цк…
     v   *Shuvalovo*   *Repino*   *Sestroretsk*
     to   Shuvalovo   Repino   Sestroretsk
     to Shuvalovo, Repino, Sestroretsk…

                                                          (From *Fazan*, 1984)

This verb root can be prefixed by *na-*, resulting in a verb that has both literal and metaphorical

interpretations. Literally, the verb is used to indicate physical motion on or over an object:

7.   Взя́ли   штраф,   а   води́тель,   когда́ отъезжа́л,
     vzya-li   *shtraf*   *a*   *voditel'*   *kogda* *ot'ezzha-l*
     take-PlP   fine   and   driver   when   drive away-SMP
     They took the ticket, and the driver, as he was driving away,

     одни́м   колесо́м   ему́   на́   ногу   **нае́хал**!
     odn-im   *koles-om*   *emu*   *na*   *nogu*   **na-ekha-l**
     one-Ins   wheel-Ins   him(D) on   leg-Acc   **on-go-SMP**
     ran over his foot with one of the wheels!

                                                    (From *Avtopilot*, 2002.01.15)

In this example, the Landmark is the man's leg, the Trajector is the wheel of the car

driven by the driver, the verbal root encodes the Path ('went by vehicle') and the prefix *na-*

encodes the framing component/additional spatial information 'over'. It is important to note that

the framing component is also encoded by the independent preposition *na-*, which occurs before

nogu 'leg'. This is an example of the double-framing strategy employed by Russian and other

Slavic languages.

In addition to *ekhat'*, *na-* can be prefixed to three other principal verbs of motion, *idti* 'go

(determinate)', *khodit* 'go (indeterminate)', and *ezdit'* 'go by vehicle (indeterminate)', the first

two of which yield slightly different meanings when prefixed with *na-*, to be discussed below.

When *na-* is prefixed to *ezdit'*, another verb referring to motion by vehicle, the result is a

meaning similar to that of *naekhat'*:

8. Впереди   ровный   путь, чуть дальше   **наезженная**
    vperedi   *rovn-yj*   *put'* *chut'* *dal'she*   **na-ezzh-enn-aya**
    ahead   level-Adj   way   bit   further   **on-go-Pst.Pt-F**
    Ahead lay a smooth road, a bit further, gone over

    машинами   пыльная   развилка,   а   там   и—   воинская   часть.
    mashin-ami *pyl'n-aya* *razvilka*   *a*   *tam* *i*   *voinsk-aya* *chast'*
    car-Ins/Pl   dusty-F   crossroads   Conj there and military-F   unit
    by many cars, a dusty crossroads, and there--a military unit.
                                        (From Vladimir Makanin, *Kavkazskij plennyj*, 1995)

In the example above, the framing component *na-* adds a sense of spatial location 'on' or

'above' to *ezzhenaya*, the Past Participle of *ezdit'*, which encodes the Path, allowing for the

Landmark, the crossroads, to be described as 'gone over' by many cars (the Trajectors). Other

verbs that can be included in this subcategory include *nabezhat'* 'run on', *naplyt'* 'float on',

napolzti 'crawl on', and *nakhlynut'* 'gush on'.

5.1.2. Subcategory 2: MOVE AGAINST/MAKE CONTACT WITH A SURFACE

Subcategory 2 is related to Subcategory 1 via metonymic modification of the core image

schema found in (1). Specifically, the image schema for (2) profiles a subsection of the Path

found in the core image schema. Instead of moving across or along a surface--the Landmark--as

in Subcategory 1, the Trajector moves in a downward direction and makes contact with the top

of the Landmark. I will now explain further how the Path in (2) constitutes a subsection of the

core image schema Path.

Baydimirova (2010) claims that all meanings of *o-/ob-/obo-* are related, via either

metonymy or metaphor, to the 'core image schema' of the central prototype. This study makes

the same claim; therefore, it must be shown that all peripheral image schemas metonymically

profile one part or feature of the Path component of the core image schema.

The present study hypothesizes that the image schema for this subcategory highlights a single unitary element of the Path component of the core image schema; the Path component of the core image schema is construed as consisting of repeated incremental, sequential movements down and forward. This construal is supported by Croft and Cruse's (2004) statement that, "image schemas are 'abstract' in one sense of the word--they are schematic--but not abstract in another sense of that word--they are embodied" (44). In other words, the core image schema found in Subcategory 1 is a schematic version of the embodied experience of moving forward, which abstracts away from the many incremental movements in the human embodied experience (human footsteps) to construe the movement as a singularity, whereas the current image schema (2) represents these incremental movements, profiling a single one of them.

This difference can be seen as an example of a change in the 'scope of attention', defined by Chafe (1994) as "a periphery of consciousness where entities are accessible to attention" (29). Croft and Cruse (2004) describe the scope of attention as surrounding the focus of attention; for predicates within this subcategory, the scope of attention is smaller (small circle in Fig. 5.c.), as a section of the core image schema is "zoomed in" on, leaving the rest of the core image schema outside of the 'periphery of consciousness' (Fig. 5.d.). This allows for a scalar adjustment to a more fine-grained perspective, the separate movements that compose the Path component to become apparent, and a single such movement to be profiled (small circle in Fig. 5.d.).

Fig. 5.c. Portion of core image schema selected as scope of attention for Subcategory 2

Fig. 5.d. Image schema for Subcategory 2 MOVE AGAINST/MAKE CONTACT WITH A SURFACE, including scope of attention and focus of attention
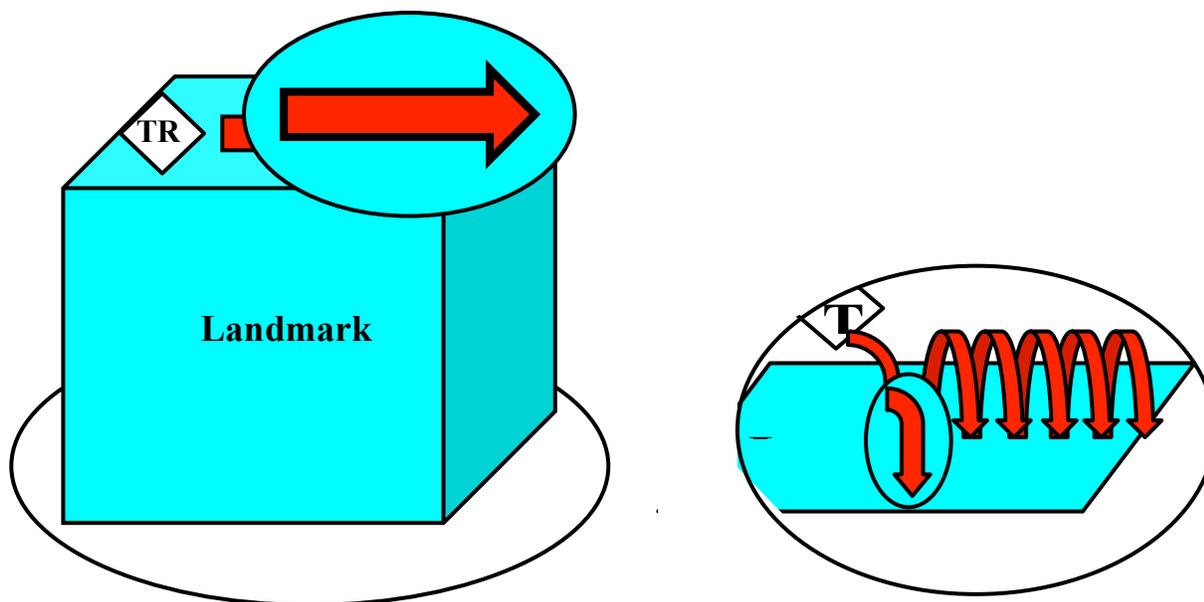
As is the case with the other complex motion events involving *na-* that have been analyzed so far, verbs in this subcategory are semantically compositionally transparent. For example, the verb *stupit'* 'step' becomes *nastupit'* 'step on' when the preposition *na-* 'on' is added as a prefix. There is no additional change in meaning in 9; *nastupit'* transparently combines the meaning of the two morphemes that make it up (independent *na* + independent *stupit'* = *nastupit'*):

9. Так   испугался,   что   его   словно   бы   парализовало,
   Tak   *ispuga-l-sya*   *chto* *ego* *slovno*   *by*   *paralizova-lo*
   So   be scared-SMP-Rfl   that   him   as if   Cond   paralyze-SNP
   He was so frightened, that it seemed as if he were paralyzed,

   он   не   мог   **ступить**   шага   к   чёрной   пропасти
   on *nye* *mog*   ***stupit'*** *shag-a* *k*   *chyorn-oy*   *propasti*
   he   Neg   could   **step(Inf)** step-G   toward   black-D   abyss-D
   he could not take a step toward the black abyss…

   (From Vasil' Bykov, *Boloto, 2001*)

10.   He   удержа́вшись,   я   **наступи́л**   на   о́ттиск сапога́.

*Ne   uderzha-vshi-s'   ya   **na-stupi-l**   na   ottisk sapog-a.*

Not   hold back-PstPt-Rfl   I   **on-step-SMP** on   print boot-G

Without holding myself back, I stepped on the print of the boot.

<div align="right">(From Jurij Koval', Sirotskaya zima, 1993)</div>

In 10, the Trajector is the speaker's leg or foot, the Landmark is the boot print, and the Path via which the former makes contact with the latter is described by the verbal root *stupil*. Additional information about the Path (the framing component) is provided by the prefix *na-* and the preposition *na*, both of which make reference to the position and downward direction of the Path within the image schema above.

Other examples of *na-* predicates that instantiate this image schema include *nabrat'* (when used in the sense of 'dial a number'), *nazhat'* (when used in the sense of 'push/press down'), and *nachistit'* 'polish'. Compositionally, these predicates consist of *na-* + *brat'* 'get/take', *na-* + *zhat'* 'cut/reap/mow' and *na-* + *chistit'* 'clean'. All of these verbal roots can express a specific type of movement (Path) in the physical domain that, when they are prefixed with *na-* as the framing component, gains an additional sense of proceeding directionally downward against a surface, as in *nabrat' nomer* 'dial a number' and *nazhat' pedal'* 'press down on the pedal'.

The predicates above profile both the directional movement of the Trajector toward the Landmark, as well as the contact of the Trajector with the Landmark. For several other predicates within (2), however, the eventual contact of the Trajector with the Landmark/Surface is profiled (the small circle in Fig. 5.e.) while the directional movement of the Trajector is not as strongly emphasized.

Making the point of contact the focus of attention involves further constraining the scope of attention; specifically, the area that is the focus of attention for the previous image schema (the small circle in Fig. 5.e.) becomes the entire scope of attention for the current image schema

(Fig. 5.f.). The very limited scope of attention and very close viewpoint from which the Trajector

is observed make for a loss of spatial perspective of the core image schema as a whole

(represented by the change of observer perspective in Fig. 5.f.); because most of the Landmark

and all of the Ground are outside the scope of attention, the position of the Path and Trajector

with respect to them is no longer cognitively 'accessible' or salient and the Landmark appears

simply as a surface or barrier located nearby in space, with which the Path (the red vector in Fig.

5.f.) makes contact. The result of this loss of perspective is that the directionality of the Path

component becomes less salient; it is not obligatory that the movement referred to be simply

downward. Rather, the movement can be in any direction, as long as the Path eventually makes

contact with a surface.

Fig. 5.e. Portion of core image schema selected as scope of attention for Subcategory 2

Fig. 5.f. Image schema with constrained focus of attention for Subcategory 2 MOVE

AGAINST/MAKE CONTACT WITH A SURFACE, including scope of attention and focus
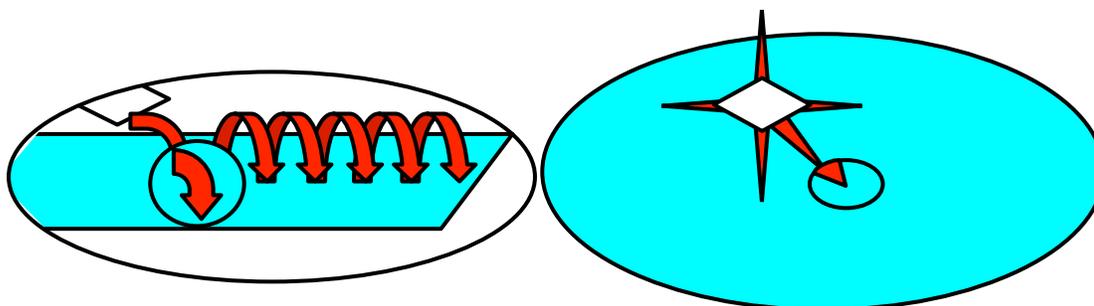
of attention

A result of making the point of contact of the Trajector with the Landmark the focus of

attention is that, when the image schema is applied metaphorically to complex events outside the

physical domain, the Landmark can be construed as a non-spatial Goal of the action depicted by

a predicate. Consequently, this image schema is most frequently and productively applied

metaphorically to non-physical domains (5-8) including as a schema for Resultative and Perfective constructions, which will be discussed below. Other predicates with this image schema include *nadushit'* 'perfume', *napudrit'* 'powder', *naskochit'*, 'bump/crash into' from *skochit'* 'jump, fall', and, in its literal meaning, *natolknut'sya* 'knock/bump against, walk into' from *tolknut'sya* 'hit, knock'.

5.1.4. Subcategory 3: CAUSE TO MAKE CONTACT WITH AN OBJECT OR SURFACE

This subcategory utilizes what is, essentially, the image schema of (2)--in (3), the position of the Trajector, Path and Landmark relative to one another is identical to their position in (2), and the focus of attention/profiled section of the Path is the point of contact with the Landmark, as in (2). However, in this subcategory, a slight change to the image schema is involved--namely, the addition of an Agent.

Here, the Trajector is not construed as moving by itself; rather, another event participant, the Agent, acts upon it and causes it to move along the specified path (Fig. 5.g.). In this way, the image schema for (3) differs from those for (1) and (2), which do not incorporate Agents. Again, the moment of contact of the Path with the Landmark/Surface occurring at the end of the movement is profiled.

Fig. 5.g. Image schema for Subcategory 3 CAUSE TO MAKE CONTACT WITH AN OBJECT OR SURFACE, including scope of attention and focus of attention
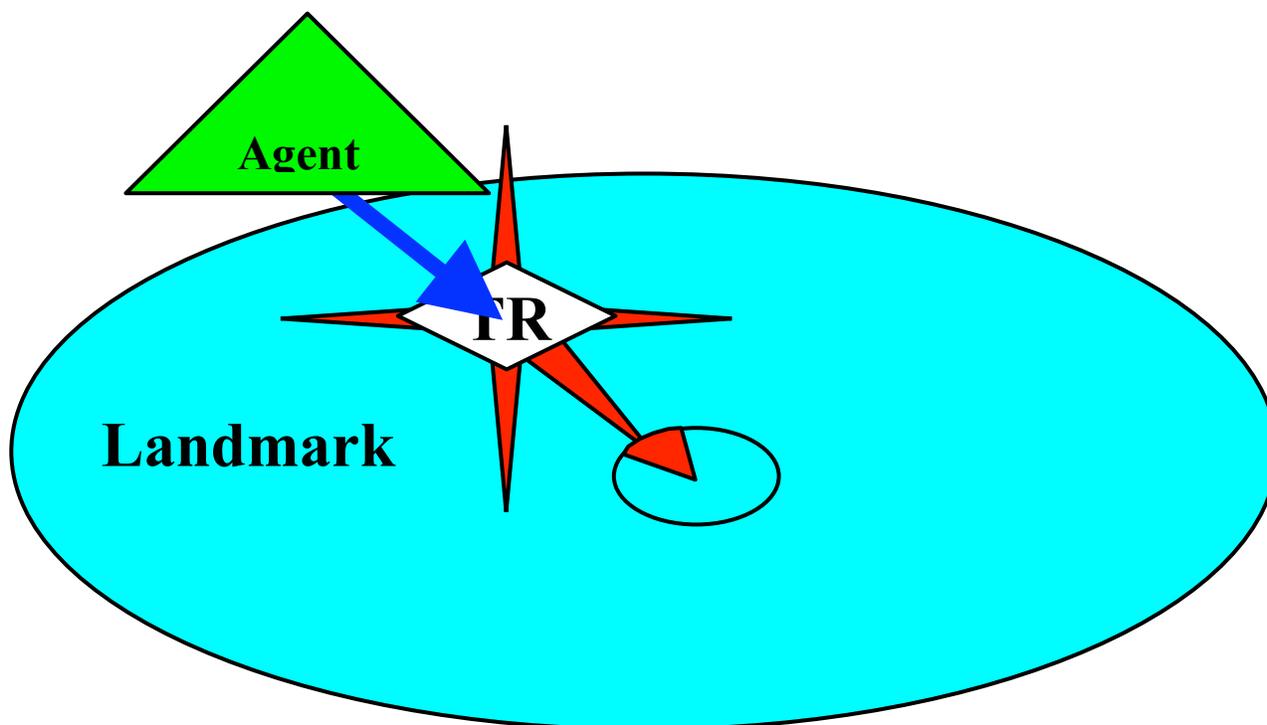
An example of a predicate that applies the above image schema in the physical domain (in some of its uses) is *nanesti*, as when it is used to mean 'land/strike a blow':

11. Хубара был уже обессиленная, но все
    khybara   byl-a uzhe obessilenn-aya   no   vsyo
    houbara   be-SFP already exhausted-F   but   all
    The houbara was already exhausted,

    еще пыталась **нанести** удар.
    eschyo pyta-las'   na-nesti   udar
    still attempt-SFP   on-bring   blow
    still it continued trying to strike.

    (From Aleksandr Ilichevskij, *Pers*, 2009)

In the above example, the verbal root *nesti* 'bring' is construed as the Path component of a complex motion event. The houbara (a type of bird) is construed as the Agent, and *udar* 'blow' is construed as the Trajector. The framing component *na-* profiles the contact of the blow with an

individual, construed as a Landmark, creating a meaning of 'land a blow, strike' for the complex predicate *nanesti.*

Some other examples of predicates that apply this image schema in the physical domain are *nalozhit'* 'put/lay on (e.g., one's hands, stitches on a wound)' from *lozhit'* 'lay', *nadet'* 'wear, put on' from *det'* 'do, put', *nabrosit'* 'throw on' from *brosit'* 'throw', *nabrosat'* 'draft (v.), sketch out, jot down' from *brosat'* 'throw', *nakinut'* 'throw/cast on', from *kinut'* 'throw, cast', and *nakleit'* 'paste on' from *kleit'* 'glue, paste'. It is possible that the simplex PWVR *nanyat'* 'hire'[19] also instantiated this image schema before undergoing lexicalization and reanalysis.

5.2. *na-* in non-spatial complex events

We will now turn to a discussion of subcategories (4-9). Predicates in these subcategories apply the image schemas for complex motion events seen in (1-3) to non-physical domains. While *na-*, as a spatial/aspectual prefix, encodes the framing component of a complex motion event, its function is necessarily different in non-spatial complex events.

The inexact overlap between the image schema and the nature of the event and participants being described leads to a less clear semantic role for *na-* in these cases. Rather than simply the main component of a complex motion event in space, Path in these cases is metaphorically construed as a wide array of distinct processes, using a wide array of non-spatial verbal roots/predicates. As the morpheme that provides additional information about the Path, *na-* in turn, naturally attains a wider array of semantic functions; because *na-* cannot simply encode the framing component information for the Path such as 'movement downward' or 'contact with a surface' in such events, it ends up encoding a wide array of non-spatial concepts, including completion, causation, interference, and others.

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[19] From *na-* + (fossilized verbal root) *-nyat'*

The metaphorical semantic broadening of *na-* in these various ways also means that its semantic contribution to predicates in these subcategories is more semantically opaque. The semantic relation of many of the complex predicates discussed in (4-9) to the predicates in the physical domain discussed in (1-3) is not always apparent; nevertheless, as stated above, this study argues that all predicates under discussion are complex predicate types that instantiate one of the image schemas in (1-3), whether Specialized Perfectives, Complex Act Perfectives, or Natural Perfectives.

In terms of grammaticalization, when *na-* is used in a wide range of semantic domains and with a wide array of predicates, its link with its original spatial meaning grows increasingly tenuous as it comes to be used to encode the range of non-spatial concepts listed above. At the extreme end of this grammaticalization process *na-* apparently ceases to be a derivational morpheme that creates a new lexeme when prefixed to a verbal root, and instead appears to be a simple inflectional marker for the grammatical aspectual category of Perfective; in these cases, adding it as a prefix does not change the meaning of the verbal root.

This section will begin by examining direct metaphorical extensions of the core image schema (4), followed by the metaphorical extensions of each subsequently more peripheral image schema (relative to the core image schema). Because the image schema for (2) is more centrally located in the network than that of (3), all distinct metaphorical extensions of (2) will be discussed in (5-8) before metaphorical extensions of (3), which will be discussed in (9).

For examples given in this section, I will continue to gloss each *na-* predicate compositionally, as in section 5.1. The lexicalized/conventionalized meaning will be given in the English translation.

5.2.1. Subcategory 4: METAPHORICAL MOVE OVER AN OBJECT OR SURFACE

This subcategory is a metaphorical extension of the prototypical core image schema of

Subcategory 1. The core image schema is applied to a non-physical domain, such as a complex

cognitive or interpersonal event, where one participant is construed as the Trajector moving 'on

or over' another participant, construed as a Landmark, although in reality no physical movement

is occurring. The literal, physical meaning of *naekhat'* illustrated in the examples for

Subcategory 1 is semantically broadened in this way:

12.　На　　меня́　все　**наéхали**　по́сле　фи́льма　　«Брат»из-зá
　　　na　　*menya*　*vse*　**na-ekha-li**　*posle*　*fil'm-a*　　*"Brat"iz-za*
　　　on　　me　　all　**on-go-PlP**　after　film-G　　"Brat" because of
　　　After the film *Brat*, everybody was getting on me because of the

　　　того́,　　　что　непоня́тно,　　кто　на　са́мом　де́ле
　　　togo　　　*chto*　*neponyatno*　　*kto*　*na*　*sam-om*　*del-e*
　　　Dem(G)　　Comp　unclear　　who　on　same-Pr　thing-Pr
　　　fact that it was unclear who Danila actually was--

　　　Дани́ла —　то　ли　геро́й, то　ли　злоде́й.
　　　Danila　　*to*　*li*　*geroj*　*to*　*li*　*zlodej*
　　　Danila　　Dem　Int.Pt　hero　Dem　Int.Pt　villain
　　　whether he was a hero or a villain.

(From *Cultura, 2002.04.01*)

The usage of *naekhat'* in 10 is to refer to the metaphorical act of ganging up on

somebody, rather than the literal act of running somebody over. In this case, the individual

involved in the movie *Brat* was discussing the treatment he received following the release of the

movie; obviously, the phrase *na menya vse naekhali* is not intended to describe a literal act of

running over, but rather to describe a verbal and psychological onslaught that the individual was

subjected to.

This conflict between the literal and metaphorical interpretations of *naekhat'* is rendered

explicitly in 13. In 13, Irina is confused as to the nature of the threat made against her family,

precisely because *naekhat'* is ambiguous; when she is told that some individuals will "*naedyt*"

her family, she does not know how to interpret this threat. In the end, we are told, rather than

understanding it metaphorically--that they will continue to harass her family--she understands it

literally. This literal meaning of *naekhat'* is stated clearly as "running someone over with a car"

(*zadavit' mashinoj*), which is the predictable compositional meaning of *na- + ekhat'*: 'on/over' +

'go', or more idiomatically in English, 'run over'.

13.

Споко́йно	объясни́ли,	что,	éсли	Ири́на	не	вы́катится	в
spokojn-o	*objasni-li*	*chto*	*esli*	*Irina*	*ne*	*vykatit-sya*	*v*
peaceful-ADV	explain-PlP	Comp	if	Irina	not	roll out-Rfl	in

They explained calmly that if Irina did not "roll out" [leave]

тече́ние	трех	дней,	они́	**нае́дут**	на
techenie	*trekh*	*dn-ej*	*oni*	***na-ed-ut***	*na*
course	three(G)	day-G/Pl	they	**on-go-3Pl**	on

within three days, they would "go over"

её	семью.	Ири́на	не	зна́ла,	что	тако́е	**"нае́дут"**,
eyo	*sem'y-u*	*Irina*	*ne*	*zna-la*	*chto*	*tak-oe*	***naedut***
her	family-Acc	Irina	not	know-SFP	what	such-N	**"they go on"**

her family. Irina did not know, what this "go over" meant, and understood it

и	поняла́	буква́льно:	зада́вят	маши́ной.
i	*ponya-la*	*bukval'n-o*	*zadav-yat*	*mashin-oj*
and	understood-SFP	literal-ADV	run over-3Pl	car-Ins

literally: they would run over them with a car.

(From *Novij Mir*, 2002)

Irina's confusion stems from the fact that the verb *naekhat'* is more frequently used in the

metaphorical sense of 'harrass', as is *nastupit'* (discussed below). Of course, a similar process

applies for English; lexical items that invoke image schemas (1-3), such as 'stepping on X's

toes', 'steamrollering X', and 'trampling on X' are often used to refer to a figurative type of

negative interference with X rather than to their literal spatial/physical meanings.

As with *naekhat',* the literal meaning of *naezzhat'* 'go on/over something

(indeterminate)', can be broadened when the movement is construed metaphorically. *naezzhat'*

is derived from *ezdit'*, the verb referring to (indefinite) motion by vehicle.[20] The metaphorical

use of *naezzhat'* is demonstrated in the following example:

14.

Оправдывая	название	книги,	автор	сосредоточивает	наше
opravdyva-ya	*nazvanie*	*knigi*	*avtor*	*sosredotochivae-t*	*nashe*
justify-Ger	naming	book-G	author	focus-3S	our-N

Justifying the name of the book, the author focuses our

внимание	на	перекрестках	прошлого,	т. е.	на
vnimanie	*na*	*perekrestka-kh*	*proshl-ogo*	*[to est']*	*na*
attention	on	crossroads-Loc/Pl	past-G	that is	on

attention on the "crossroads of the past", that is, on

узловых	моментах,	когда	история	могла
uzlov-ykh	*moment-akh*	*kogda*	*istoriya*	*mog-la*
crucial-Loc/Pl	moment-Loc/Pl	when	history	be able to-SFP

those crucial moments, when history was able to

сойти	с	**наезженной**	колеи	системоцентризма.
s-ojti	*s*	***naezzh-enn-oj***	*kole-i*	*sistemotsentrizm-a*
out/away-go(Inf)	from	**on-go-Pst.Pt-G**	track-G	systemo-centrism-G

leave the beaten (lit., 'gone on') path of blind adherence to the status quo.

(From *Otechestvennie zapiski*, 2003)

In this example, the Landmark is *koleya*, the 'track' that the Trajector, *istoriya* 'history'

'goes over' repeatedly. Because the Trajector 'history' is an non-physical abstract concept, the

complex predicate *naezzhennoj* encodes metaphorical Path and framing component.[21]

Functioning in other forms and with other NPs, *naezzhat'* often has a meaning similar to

English 'run into' or 'pay someone a visit':

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[20] The verb *ezzhat'* 'ride', an extremely low-frequency verb with only 8 tokens in the Russian National Corpus, is not considered a lexical item in Standard Russian (Wade, 2000). As a prefixed verbal root, -*ezzhat'* is understood as the prefixed form of *ezdit'* 'go by vehicle (indeterminate)'. In fact, the non-standard form *ezzhat'* may be a back-formation: *ezdit'* undergoes consonant fusion in the first person singular form to *ezzhu*, all other forms of *ezdit'*, such as *priezzhat'*, *doezzhat'*, and *naezzhat'*, show this consonant fusion as well. Although these verbs are derived from *ezdit'*, the existence of *naezzhat'* and others like it may lead speakers to assume that there is an unprefixed *ezzhat'*.

[21] The construction utilizing the participial form of *naezzhat'* as a modifier, and particularly the construction seen in the previous example, *naezzhenaya*(CASE/NUM) + *koleya*(CASE/NUM) is heavily routinized and very common in the data. This can be construed as evidence not only of lexicalization of a prefix/predicate combination, but also of entire constructions involving *na-* predicates in some cases.

15. Ho   избáвиться   от   меня́   тебе́   не   удáстся,
     no   *izbavi-t'-sya*   *ot*   *menya*   *tebe*   *ne*   *udastsya*
     but   escape-Inf-Rfl   from   me(1SA)   you(2SD)   not   manage
     But you will not be able to get rid of me, forget

     об   э́том   забу́дь.Бу́ду   **наезжáть**.   С   прéжней   любóвью.
     ob   *etom* *zabud' bud-u*   ***naezzha-t'*** *s*   *prezhn-ej*   *ljubov'-ju*
     about   this-Pr forget be(Perf)-1SG **visit-Inf**   with   previous-Inst   love-Inst
     about that. I will come now and then, still with my former love.

                                             (From Irina Murav'eva. *Meshchanin vo dvoryanstve, 1994*)

This is another example of the image schema for complex motion events shown in Subcategory 3 being extended to a non-physical domain. Here, individual the speaker intends to visit is construed as the the Landmark, the speaker is construed as the Trajector, the Path taken repeatedly by the speaker during the act of visiting is encoded by the verbal root *-ezzhat'*, and *na-* encodes the framing component of the Path, indicating that the speaker/Trajector metaphorically makes contact with the interlocutor/Landmark during these repeated visits.

Other examples of a predicate that employs the core image schema metaphorically include *napravit'sya* 'direct/guide oneself', from *pravit'* 'direct, rule', and *nasolit'* 'annoy', from *solit'* 'salt (v.)'.

5.2.2. Subcategory 5: METAPHORICAL MOVE AGAINST/MAKE CONTACT WITH A SURFACE (INTERFERE/INFRINGE)

We will now turn our attention to a cluster of related functions of *na-* (5-7) that metaphorically employ the image schema outlined in (2).

In (5), the image schema of Subcategory 2 is applied to non-physical domains. For this subcategory, *na-* follows the following pathway of semantic change:

MOTION AGAINST/CONTACT WITH A PHYSICAL SURFACE → MOTION AGAINST/CONTACT WITH A FIGURATIVE SURFACE/BARRIER

One consequence of this semantic change that is seen in the related subcategories (6) and (7) is

that the Landmark in the image schema can be identified with a non-physical temporal Goal of a predication, such as completion of the action described or the reaching of a change of state. In subcategory (5), by contrast, the Landmark has a wider range of possible construals, which can vary from one predicate to another.

A prototypical case of this semantic broadening of *na-* through metaphor is *nastupit'*, which, when used to express movement in the physical domain, has a compositionally transparent meaning as shown in 5.1.2. *nastupit'* undergoes semantic broadening to a meaning equivalent to English 'attack' or 'infringement' when used to express complex events in other domains. Below *nastupit'* is encountered in its nominalized form:

16.

Подавле́ние	свобо́ды,	**наступле́ние**	на	права́	челове́ка	и
podavlenie	*svobod-y*	***nastuplenie***	*na*	*prava*	*chelovek-a*	*i*
suppresion	freedom-G	**attack**	on	rights	person-G	and

The suppression of freedom, the attack on human rights

распростране́ние	шовинисти́ческих	настрое́ний	происхо́дит	постепе́нно.
rasprostranenie	*shovinistichesk-ikh*	*nastroeni-j*	*proiskhodi-t*	*postepenn-o*
spread	chauvinist-G/Pl	attitude-G/Pl	occur-3S	gradual-ADV

and the spread of chauvinist attitudes occurs gradually.

(From Rebecca Frumkina, *Otechestvennie Zapiski, 2003*)

Here the explicit physical meaning of 'stepping down (on something)' of *nastupit'* is metaphorically broadened due to the shift of the domain in which the action occurs. In this case, the framing component of the event, which in (2) describes the contact of the Trajector with a physical Landmark (and, therefore, the physical infringement upon the Landmark), describes instead infringement on the autonomy (mental boundaries) of a psychological entity, which is construed as the Landmark. In this way, *na-*, which encodes the framing component, undergoes semantic broadening and can now refer to all figurative forms of social or psychological "attack" or interference that do not involve explicit physical motion, such as the "attack on human rights" expressed in 6. This specific path of metaphorical semantic broadening is widespread cross-

linguistically--as in, for example, the English phrase, "human rights are being trampled upon".

Another *na*-predicate that applies the image schema from (2) in a non-spatial domain is

nastroit' 'tune, adjust', from *stroit'* 'build':

17. | Програ́ммный | ко́мплекс | был | перерабо́тан | таки́м |
     | --- | --- | --- | --- | --- |
     | *Programmn-yj* | *kompleks* | *byl* | *pererabotan* | *tak-im* |
     | Software-Adj | package | be(3MP) | redesigned | such-Ins |

The software package has been redesigned

о́бразом,	что	тепе́рь его́	мо́жно	**настро́ить**
obraz-om	*chto*	*teper' ego*	*mozhno*	**na-stroit'**
way-Ins	that	now it	possible(Adv)	adjust

so that it can now be adjusted

к	любо́й бюдже́тной	классифика́ции
k	*lyub-oj byudzhetn-oj*	*klassifikatsi-i*
to	any-D budget-D	classification-D

to any budgetary classification.

(From Vladislav Kulakov, *Ural'skij SAPFIR // «Computerworld»*, 2004)

In this example, the 'budgetary classification' is construed as the Landmark and the

software package is the Trajector. The verbal root *-stroit'* encodes metaphorical Path and *na-*

profiles the contact of the metaphorical Trajector with the Landmark. The process of changing

the software package (Trajector) to 'build on' any budget classification (Landmark) is construed

as the point of contact, resulting in a meaning of 'adjust'.

In this Subcategory, as in (2), many predicates make reference to the image schema

profiling the point of contact of Trajector and Landmark; among these are predicates formed

from verbs of motion that describe 'finding' and 'location', including *najti* 'find', from *idti* 'go

(determinate)', *nakhodit'*/*nakhodit'sya* 'locate/be located', from *khodit'* 'go (indeterminate)'

nabresti 'happen across, come upon', from *bresti* 'plod, trudge', *natolknut'sya* in its meaning of

'come across, come upon', and *natknut'sya* 'stumble across', from *tknut'* 'poke'.[22]

All of these predicates involve a construal of the physical movement described by the verbal root as the Path in the complex motion event image schema. Unlike the motion verbs *naekhat'* and *naezdit'* in (1), however, this construal does not result simply in a meaning of 'move over an object'; rather, the other, more lexicalized meanings given above have developed. In terms of the image schema, the meaning of *najti* and the other predicates given above can be explained in this way: as a result of the contact of the Trajector with the Landmark, the location of the Landmark can now be integrated within the spatial context of the Ground as a whole (whereas previously its location relative to the Ground was unknown).

Below is an example of *idti* unprefixed (in the irregular past form *shla*), followed by an example of *najti*, the prefixed form. These two examples illustrate the difference between the unprefixed verb root and the *na-* form.

18. Я   **шла**   точно с   той   же
     ya   **sh-la**   *tochno s*   *toj*   *zhe*
     I   **go-3FP**   exactly with that(Ins)   Emph
     I was walking [going on foot] at the same

     скоростью,   что   он   ехал
     skorost'-yu *chto* *on*   *ehka-l*
     speed-Inst   that   it   go-3MP
     speed that [the bus] was moving…

                                                    (From *Dasha, 2004*)

19. Эта   компания   была   одной из   наиболее   активных
     eta   *kompaniya* *byl-a* *odn-oj iz*   *naibolee*   *aktivn-ykh*
     Dem(F)   company   be-SFP one-Ins of   most   active-G/Pl
     This company was one of the most active

     западных   фирм…   а   сейчас спустя   10-12 лет
     zapadn-ykh *firm*   *a*   *sejchas spustya*   *10-12* *let*
     western-G/Pl firm   Conj   now   after   10-12 years
     western firms...and now after 10-12 years

---

[22] In addition, the NPP *obnaruzhit'* 'discover', now completely semantically opaque, may have been a member of this subcategory at one time.

от	неё	не	**найдёшь**	и	следов.
ot	*neyo*	*ne*	***na-jdyo-sh'***	*i*	*sled-ov*
from	her(G)	Neg	**on-go-2S**	and	trace-G/Pl

you can't even find a trace of it.

<div align="right">(From Computerworld, 2004)</div>

All 'finding' or 'location' predicates given above profile either a literal moment (in the physical domain) or a figurative/metaphorical moment (cognitive, etc.) of a Trajector's contact with and resulting location/contextualization of a Landmark. In other words, the Landmark can be an object physically located in space that is physically encountered by the Trajector (usually an individual), or it might be an entity located in a non-spatial domain that is encountered cognitively or in some other way, such as the 'traces' of the company referred to in the example above. The predicates *najti* 'find', *nakhodit'* 'locate', *najtis'* 'be found', and *nakhodit'sya* 'be located', all profile the act of finding an object both literally in space and metaphorically.[23] I have included them in this subcategory because the majority of events described by these predicates do not involve physical contact of the Trajector with the the Landmark, but rather the type of cognitive orientation of a Landmark within a mental landscape that is seen in 13.

To use once again terminology from Croft and Cruse (2004), predicates of 'finding' and 'location' within this subcategory have the same focus of attention as predicates in (2); namely, the point of contact between Trajector and Landmark. However, their scope of attention is much larger, as part of their function is to "zoom out" and show the location of the Landmark with respect to the Ground. This widened scope of attention is the key difference between the image schema for these predicates and those for predicates in (2). The contact of the Trajector with the Landmark, combined with the widened scope of attention encompassing the Ground, allows the

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[23] *najti* has another literal meaning falling under subcategory 1, equivalent to English 'pass over, block', yet another example of the polysemy of *na-* and *na-* predicates. An example of this is a sentence such as *na solntse nashla bol'shaya tucha* 'a big cloud blocked the sun' (Ivanova, personal communication).

Landmark to be situated in the wider environment, i.e, relative to the Ground and other surrounding objects; in other words, the Landmark is 'found'.[24]

Another predicate within this subcategory is *nagovorit'* 'gossip, say unbelievable/crazy things'. The following discussion will illustrate *na-*'s semantically distinct contribution to two almost identical verbs of speaking, *govorit'* and *govorit'sya*, thereby further demonstrating its polysemy as a verbal prefix. These two verbs are both semantically equivalent to English 'speak'; as the following example illustrates, *govorit'sya* is *govorit'* with the Russian suffix *-sya*, which in this case functions as an intransitive marker.

20. | Вы | | сами | же | **говорили** / | что | боитесь. |
|---|---|---|---|---|---|---|
| *vy* | | *sami* | *zhe* | ***govorili*** | *chto* | *boites'* |
| you(F) | | Ints.Pr | Emph | **say-3PlP** | Comp | fear-3Pl-Rfl |

You yourself said that you are afraid.

(From *Obshchestvennoe mnenie, 2003*)

И	тогда	всё	как	**говорится**	будет	хорошо.
i	*togda*	*vsyo*	*kak*	***govor-it-sya***	*bud-et*	*khorosh-o*
and	then	all(N)	as	**say-3S-Imp**	be(Perf)-3S	good-N

And then all, as they say, will be well. (lit. 'all, as it is said, will be well.')

(From *www.khutorskoy.ru/discus/audio/index.htm, 2008*)

Though both *nagovorit'* and *nagovorit'sya* employ the image schema of (2) metaphorically, they have distinct semantic meanings, which are attributable to their different construals of Trajector, Path, and Landmark. *nagovorit'*, which falls under the present subcategory, will be discussed first.

In the case of *nagovorit'*, the act of speaking is construed as the Path, the individual who is speaking is construed as the Trajector, and another individual is construed as the Landmark. *na-*, as the framing component for this metaphorical Path, profiles the point of contact of the

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[24] This is an instance of a common metaphorical semantic path equating physical location 'on' or 'above' something with 'finding', which is found in English 'come upon' and Spanish 'encontrar', to give two examples.The Spanish verb *encontrar*, meaning 'to find', arises etymologically from Latin *in+contra+re* 'on+against+Inf.' Its literal compositional meaning, therefore, can be understood as a verbalized form of the spatial preposition 'up against', as in 'be/come up against'.

Trajector (the speaker) with the Landmark (the other individual) to indicate that the speaking is occurring 'on' or 'against' someone, and that the speaker's impact on the other individual through the act of speaking is similar to that of the Trajector on the Landmark.

This metaphorical application of the image schema gives *nagovorit'* a meaning similar to English 'say unbelievable/crazy things', as in both of the examples given below:

21. Он всегда такого **наговорит**, что уши вянут.
    *on vsegda tak-ogo **na-govori-t** chto ushi vyan-ut*
    He always such-G **on-speak-3S** Comp ear(Pl) wilt-3Pl
    He always says so many crazy things that the ears wilt.
    <div align="right">(From V.S. Khrakovskij, Ponyatie sirkonstanta i ego status, 1999)</div>

22. Ну что вы мне сейчас **наговорили**? Что, сами-то
    *nu chto vy mne sejchas **nagovorili** chto sami-to*
    Intj Intr you(F) me(1SD) now on-speak-3PlP Intr Ints.Pr-Indf.Pt
    What [nonsense] were you saying me just now? Do you

    вы в это верите? Нет ведь?
    vy v eto verite net ved'
    you(F) in Dem believe-3Pl Neg Intr
    yourself believe this? No, right?
    <div align="right">(From Y. O. Dombrovskij, Fakul'tet nenuzhnykh veshchej, Pt. 3, 1978)</div>

Here, *nagovorit'* utilizes the image schema from (2), making for a sense of infringement on an individual. A phrase such as *mne sejchas nagovorili* above can be understood compositionally as 'you were just talking on me', with a metaphorical meaning to be understood as 'you were gossiping, saying unbelievable/crazy things to me'. A similar semantic process of construing an individual as a Landmark in space is found in some dialects of English which allow 'talk on', with a meaning akin to Standard English 'discuss'.

Another possible example of *na-* expressing motion against a figurative barrier is the predicate *nazakat'* 'punish'. Compositionally, this predicate consists of *na- + kazat'* 'show'. The two examples given below contrast the meaning of *kazat'* with the prefixed form *nakazat'*:

23.   Из   Рима   я   никогда   не   уезжал,   дальше
        iz   *rim-a*   *ya*   *nikogda*   *ne*   *u-ezha-l*   *dal'she*
        from   Rome-G   I   never   Neg   Abl-go-SMP   further
        I have never left Rome, beyond

        околицы   носа   не   казал.
        okolits-y   *nos-a*   *ne*   *kaza-l*
        outskirts-G   nose-G   Neg   show-SMP
        the outskirts I have never shown my face.

24.   Я   спрашивал   у   прокурора   Тверского   района,
        Ya   *sprashiva-l*   *u*   *prokuror-a*   *tversk-ogo*   *rajon-a*
        I   ask-SMP   of   prosecutor-G   Tver(Adj)-G   region-G
        I asked the prosecutor of the Tver region

        за   что   же   ребят   наказали   так   жестоко?
        za   *chto*   *zhe*   *pebyat*   *nakazali*   *tak*   *zhestoko*
        for   what   Emph   guy-Acc/Pl   punish-PlP   so   severe-Adv
        why the fellows were punished so severely.

The function of *na-* within *nakazat'* is semantically opaque. However, it can be argued that *nakazat'* involves a construal of the act of 'showing' as a Path and of an individual as a Landmark. In this interpretation, *na-*, as the framing component of the metaphorical Path, expresses the fact that the individual who carries out the act of 'showing', construed as the Trajector, interferes with or infringes upon the autonomy of the individual construed as the Landmark, rendering a meaning of 'punishment' for *nakazat'*. As *nazakat'* appears to have undergone partial, if not full, lexicalization, however, its inclusion in this subcategory is not definitive.

Another interesting case within this subcategory is *nazvat'*, from *zvat'* 'call. *nazvat'* indicates that an individual or entity, construed as a Landmark, is being called or referred to by a secondary, peripheral aspect of its identity. Here is an example with the unprefixed verb *zvat'*:

25.   Соня (Елена Калинина) — старше;   здесь её
        Sonya (Elena Kalinina)   *star-she*   *zdes'*   *eyo*
        Sonya (Elena Kalinina)   old-Com   here   her
        Sonya ([played by] Elena Kalinina) is older; here it

следовало	бы	**звать**	по	имени-отчеству.
sledovalo	*by*	*zvat'*	*po*	*imen-i-otchestv-u*
follow-SNP	Cond	**call(Inf)**	by	name-D-patronymic-D

would naturally follow to call her by name and patronymic.

(*Ekran i stsena*, 2004.05.06)

In this example, *zvat'* indicates that the individual is being called by her name. The verb

nazvat', on the other hand, is used in cases where an individual or entity is being called not by

their name, but by another name or title:

26.

Если	вы	хотите	счастия	вашей	дочери,	то
esli	*vy*	*khoti-te*	*schastiya*	*vash-ej*	*docher-i*	*to*
If	you(Pl)	want-2Pl	happiness	your(Pl)-G	daughter-G	then

If you wish for your daughter's happiness,

назовите	Милона	вашим	сыном.
na-zov-ite	*Milon-a*	*vash-im*	*syn-om*
on-call-PlCom	Milon-G	your(Pl)-Ins	son-Ins

name Milon as your son.

(From N. P. Milonov, *Istoriya bednoj Mar'i*, 1805)

27.

Легковерная	не	почитала	его	способным	ко	гнусной
legkovern-aya	*ne*	*pochita-la*	*ego*	*sposobn-ym*	*ko*	*gnysn-oj*
gullible-F	Neg	consider-SFP	him	capable-Ins	toward	vile-D

The gullible girl did not think him capable of such vile

изменеи	и	терпеливо	дожидалась	дня,	в	который
izmen-e	*i*	*terpeliv-o*	*dozhida-la-s'*	*dnya*	*v*	*kotor-yj*
treachery-D	and	patient-Adv	await-SFP-Rfl	day(G)	in/on	Rel.Pr-M

betrayal, and patiently awaited the day, on which

он	обещал	**назвать**	ее	супругою.
on	*obeshcha-l*	***na-zvat'***	*eyo*	*suprug-oyu*
he	promise-SMP	**on-call(Inf)**	her	spouse-Ins

he promised to call her 'wife'.

(From N. Mamyshev, *Zloschastnyj*, 1807)

28.

Любовь,	которую	**назовет**	мир	беззаконною	страстию!
lyubov'	*kotor-uyu*	***na-zove-t***	*mir*	*bezzakonn-oyu*	*strast-iyu*
love	Rel.Pr-Acc	**on-call-3S**	world	lawless-Ins	passion-Ins

Love, which the world calls a lawless passion!

(From *Plamed i Linna*, 1807)

In the above examples, the image schema for Subcategory 2 is again applied metaphorically.

The act of calling is construed as the Path of a complex motion event, with the individual

undertaking the act of calling construed as the Trajector, the individual or entity being referred to construed as the Landmark, and the Path or framing component encoded by *na-* profiles the metaphorical contact of the Trajector with a surface. The "surface" in the case of *nazvat'* is the figurative conceptual exterior of the identity of the individual or entity being referred to. For instances of 'calling' that reference an ancillary, secondary component of the referent's identity -- such as 'son' or 'wife' above -- the individual who is calling is understood as not describing the identity of the individual or entity being called in its entirety, but rather a peripheral, "surface-level" characteristic; for this reason, the calling individual (Trajector) is construed as only making contact with the surface of the referent (the Landmark) instead of penetrating it.

In the above examples with *nazvat'*, the individuals or entities that are construed as Landmarks have an identity that is not fully expressed by the term that is used to address them. In the first example, the interlocutors are told that they must name Milon as their son (*synom*). While we do not have much information about Milon, given that it is suggested that they name him their son, it can be inferred that he isn't yet their son and therefore *vashim synom* is even less than a superficial characteristic of Milon's identity--it is a hypothetical characteristic of his identity.

In the second example, *suprugoyu* 'wife' is a hypothetical aspect of the identity of the *legkovernaya* 'gullible one', who is construed as the Landmark; she is "patiently awaiting" the moment when she can assume the identity of 'wife'--meaning that she is not already. In the final example, a concept, 'love' is construed as the Landmark, and following the first two examples it is referred to by one of many possible superficial characteristics of its identity, namely 'lawless passion'.

Other examples of predicates in this subcategory are *naboltat'*, from *na-* + *boltat'* 'chat,

talk', in its meaning of 'gossip about smb.', and *nasolit'*, from *na-* + *solit'* 'salt', in its meaning of 'annoy'.

5.2.3. Subcategory 6: DO SOMETHING UNTIL REACHING CHANGE OF STATE (RESULTATIVE)

This subcategory is similar to (5) and (7) in its metaphorical application of the image schema from (2). It is especially similar to (7) in its construal of the action described by the verbal root as the Path component of a complex motion event and construal of the completion of the action as the framing component encoded by *na-*.

The difference between (6) and (7), however, is that in (6) the completion of the action, which is construed as the point of contact encoded by *na-*, causes a change of state in the Patient, construed as the Landmark.

One predicate in which *na-* is arguably used as a marker of change of state (Resultative) is *nadoest'*, which is closest in meaning to English 'be sick and tired of (smth.), be fed up with (smth.)'. Compositionally, *nadoest'* consists of *na-* + *doest'* 'finish eating', which is itself a Complex Act Perfective profiling the end of the act of eating.

29. Что   сама   **доесть**   не   может —   скормит   собаке.
     chto *sam-a* *doest'*   *ne*   *mozhe-t* *ckormi-t*   *sobak-e*
     what   self-F   finish eating   Neg   be able-3S feed-3S   dog-D
     What one cannot eat oneself, one feeds to the dog.

     (From www.eva.ru, *Brak* (forum), 2004)

nadoest' is semantically opaque due to the fact that the events it describes do not occur in the same domain (ingestion) as the events described by the unprefixed root *doest'*. Arguably, in the case of *nadoest'*, the act of finishing eating is construed as the Path, one individual is construed as the Landmark, and another individual or entity is construed as the Trajector. Finally, a metaphorical domain shift from ingestion to cognition or interpersonal occurs, with

'finishing eating' likened to other kinds of extended interaction between the entities construed as Trajector and Landmark. *na-*, as the framing component, indicates here that as a result of the interaction the individual construed as the Landmark undergoes a change of state. This renders a meaning of 'be sick of (smth.), be fed up with (smth.):

30. Она,   по   словам   Валеры,   ему   уже   надоела
     ona   *po*   *slov-am*   *Valer-y*   *emu* *uzhe* *na-doe-la*
     she   by   word-D/Pl   Valera-G   him(D)already on-finish eating-SFP
     According to Valera, he was already sick of her.

(From *«Volga»*, 2010)

Other predicates in this subcategory include *napolnit'* 'fill up' from *polnit'* 'fill', *nalit'* 'fill' from *lit'* 'pour', *nasytit'* 'sate, saturate', from *sytit'* 'flavor, sweeten' *namylit'* 'cover with soap' from *mylit'* 'lather(v.)', and *namaslit'* 'cover with oil/butter' from *maslit'* 'butter(v.)'.

5.2.4. Subcategory 7: DO SOMETHING A LOT; TO EXHAUSTION (COMPLETIVE) (PERFECTIVE)

In this subcategory, the metaphorical motion against a surface of Subcategory 5 is metaphorically re-interpreted as completion or exhaustion of an action. As in (5), predicates in this subcategory profile and focus attention upon a very small part of the core image schema-- contact of the Trajector with the Landmark. The event described by the predicate stem is construed as the Path of a complex motion event. The temporal endpoint or Goal of the event, at which the performance of the action is completed or exhausted, is construed and re-interpreted as the surface of the Landmark, with which the Trajector comes into contact . The individual or entity undertaking the action to completion is construed as the Trajector.

An example of a predicate in this subcategory is *nagovorit'sya*. *nagovorit'*, as stated above, has a meaning similar to English 'gossip/talk about somebody'. The meaning of *nagovorit'sya*, on the other hand, is closer to "say enough":

32.

Я	вас	скóро	не	отпущý,	до	тех
ya	*vas*	*skoro*	*ne*	*otpush-y*	*do*	*te-kh*
I	you(Pl)	soon	Neg	release-1Sg	until	Dem-G/Pl

I will not release you, I will not

пор	не	отпущý,	покá	не	**наговорю́сь**.
por	*ne*	*otpush-y*	*poka*	*ne*	***na-govor-yu-s'***
time(G/Pl)	Neg	release-1Sg	until	Neg	**over-speak-1Sg-Rfl**

release you, until such time as I have finished speaking.

(From Viktor Astav'ev, *Oberton, 1995-1996*)

33.

С	женóю	он	ужé	вдóсталь	**наговори́лся**
s	*zhen-oyu*	*on*	*uzhe*	*vdostal'*	***nagovorilsya***
with	wife-Ins	he	already	plenty	**on-speak-SMP-Rfl**

With his wife he had already spoken quite enough

о	своéй	бедé,	женá	емý	не	сочýвствовала.
o	*svo-ej*	*bed-e*	*zhena*	*emu*	*ne*	*sochustvovala*
about	3Poss.Adj-Pr	trouble-Pr	wife	him(D)	Neg	sympathize-3FSP

about his misfortune; his wife did not sympathize with him.

(From Vasil' Bykov, *Bednye ljudi, 1998*)

34.

Мы	с	ним	видались	почти	каждый	божий	день;
my	*s*	*nim*	*vidalis'*	*pochti*	*kazhdyj*	*bozh-ij*	*den'*
we	with	him(Ins)	see-PlP-Rcp	almost	every-M	darn-M	day

We saw each other almost every darn day,

не	могли	наглядеться	друг	на	друга,	не
ne	*mog-li*	*naglyadet'sya*	*drug*	*na*	*drug-a*	*ne*
Neg	be able-PlP	on-stare(Inf)-Rcp	one	on	other-Acc	Neg

we could not tire of looking at one another, we could not speak to one another

могли	**наговориться**,	намиловаться.
mogli	***nagovorit'sya***	*namilovat'sya*
be able-PlP	**on-speak(Inf)-Rcp**	on-embrace(Inf)-Rcp

enough, could not embrace one another enough.

(From P. Y. L'vov. *Dasha, derevenskaya devushka, 1803*)

In all of the above examples, *nagovorit'sya* is used to indicate completion of the act of speaking, to the point of eliminating the necessity to say more. In all examples, the speaker is construed as the Trajector, the act of speaking is construed as the Path and encoded by the verb stem *govorit'*, and the framing component encoded by *na-* profiles the end of the act of speaking, which is construed as the point of contact of the Trajector with the Landmark. This additional

framing information about the (metaphorical) Path, while coded morphosyntactically by *na-*, is also encoded lexically by *do tex por...poka ne* 'until (such time as)' in the first example.[25] In the second example, the framing component expressed by *na-* receives an additional sense of completion through the use of *vdostal'* 'plenty'[26].

In addition, the third example uses two other predicates prefixed with *na-*, *namilovat'sya* 'embrace enough' and *naglyadet'sya* 'look upon enough' which, similarly to *nagovorit'sya*, express that the action is carried out (or, in this case, not carried out) to completion or exhaustion.

All uses of *nagovorit'sya* (and other predicates in this subcategory) the data construe the point of completion of the act of speaking (or the acts described by the other predicates) as the point of contact of the Trajector with the Landmark. The development of this use of *na-*, to indicate reaching a point of completion, has likely been accelerated through pragmatic inferencing as a result of its co-occurrence with lexical items such as those described above. Sometimes *na-* has an additional construal of exhaustion. The development of this use of *na-*, to indicate reaching a point of exhaustion, has likely been similarly accelerated as a result of its co-occurrence with lexical adverbs indicating exhaustion (and satiety) such as *vdostal'* 'plenty, quite enough', *vslast'* 'to one's heart's content', *vdovol'* 'to a sufficient extent', *dosyta* 'to satiety', *vvolyu* 'ad libitum', *dovol'no* 'enough', and *dostatochno* 'sufficiently', and also with modal auxiliary verbs such as *uspet'* 'manage, be able to', or *moch'* 'be able to'. The use of these various constructions with *nagovorit'sya* and other predicates in this category reinforces the construal of the act of speaking as something that is being completed, often with a certain inherent exertion and corresponding exhaustion.

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[25]As well as contextually/pragmatically through the speaker's description of what he or she will not allow to occur until the act is completed.

[26] (compositionally, *v* + *dostal'*, 'to'+'enough')

The fact that prefixing *na-* to *govorit'* 'say' and *govorit'sya* 'say (Refl.)' yields two semantically distinct lexemes is very strong evidence for the polysemy of *na-*. Like *nagovorit'*, *nagovorit'sya* metaphorically employs the image schema from (2) and construes the act of speaking as the Path component of a complex motion event, with *na-* profiling the framing component. While in the case of *nagovorit'* the framing component, encoded by *na-*, indicates that metaphorical contact is made with an individual, making for a meaning of 'gossip, talk about', in the case of *nagovorit'sya*, *na-* indicates that the speaker (Trajector), who in the act of speaking is construed as proceeding directionally toward a surface (the Landmark), finally end the act of speaking, which is metaphorically construed as reaching and making contact with the surface, thus completing the act of speaking (and possibly exhausting the need to say any more).

The use of *na-* to express completion, exhaustion, or satiety of an action is one of the most productive functions of the prefix. Path in non-physical domains has many possible construals, allowing for a large number of predicates to be included as members in this subcategory: for the image schema to be applied to a predicate in the same way it is applied to *nagovorit'sya* and *namilovat'sya*, the action the predicate describes simply needs to occur over a period of time, and have a theoretical end point that the speaker wishes to profile.

Other examples of predicates in this subcategory include *nakupat'sya* 'bathe enough, finish bathing', *naradovat'sya* 'be happy/rejoice enough', *naest'sya* 'eat enough, finish eating', *napit'sya* 'drink enough, finish drinking', and *nadyshat'sya* 'breath enough'.

This subcategory also encompasses the most grammaticalized uses of *na-*, found in Natural Perfectives such as *napisat'* 'write (Pf.)' from *pisat'* 'write', *narisovat'* 'draw (Pf.)' from *risovat'* 'draw' and *namalevat'* 'paint, daub (Pf.)' from *malevat'* 'paint, daub'.

5.2.5. Subcategory 8: METAPHORICAL CAUSE TO MAKE CONTACT WITH AN OBJECT

OR SURFACE; CAUSATIVE

In this subcategory, the image schema of (3) is applied to non-physical domains. An

example of this is the predicate *naponmit'* 'remind' from *ponmit'* 'remember':

35.   Это   объяснение   напомнило   мне   историю   о   том,   как

eto   *ob''yasnenie*   *napomni-lo*   *mne*   *istori-yu*   *o*   *tom*   *kak*

this   explanation   remind-SNP   me(3SD)   story-Acc   about   Dem   how

This explanation reminded me of the story of how

одна   моя   сокурсница   сдавала   экзамен   по   русской   литературе.

odna   *mo-ya*   *sokursnitsa*   *sdava-la*   *ekzamen*   *po*   *russk-oj*   *literatur-e*

one(F)   my-F   classmate(F)   take-SFP   exam   on   russian-Dat   literature-Dat

one of my classmates had taken an exam on Russian literature.

In the above example, the act of remembering is construed as the Path component of a

complex motion event. The individual speaking is construed as the Trajector, the 'explanation' is

construed as the Agent, and the thing remembered by the speaker (the story) is construed as the

Landmark. *na-* profiles the moment of the speaker remembering the story, which is construed as

the point of contact of the Trajector with the Landmark. The explanation causes the speaker to

remember the story, giving the predicate *napomnit'* a meaning of 'remind'.

Another predicate that can be placed in this subcategory is *nabrat'*, from *brat'* 'bring', in

its sense of 'gain, gather'.

36.   А   на   перева́л   на́до   набра́ть   бо́льше

a   *na*   *pereval*   *nado*   *nabrat'*   *bol'she*

and   to   pass   necessary   gain(Inf)   more

And to reach the pass we need to gain

шестисо́т   ме́тров   по   высоте́.

shestisot   *metr-ov*   *po*   *vysot-e*

six hundred(GPl)   meter-GPl   by   altitude-Dat

600 meters of altitude.

(From *Otchet o velosipednom pokhode, 2003*)

In this example, the 'meters of altitude', taken as an aggregate, is construed as the

Trajector and the 600 meter threshold is construed as the Landmark. The individual who is ascending in altitude is construed as causing the distance in meters to aggregate until it makes contact with the threshold of 600 meters; *na-* profiles this moment of contact, giving *nabrat'* a meaning of 'gain'.

Other predicates that follow this model include *nakopit'* 'accumulate' from *kopit'* 'save, amass', *narastit'* 'build up, amass' from *rastit'* 'grow', and *naskuchit'* 'bore (tr.)' from *skuchit'* 'bore (intr.)'.

6. Conclusion

This thesis has investigated the polysemous semantics of the Russian verbal prefix *na-*. This prefix is one of a closed class of verbal prefixes in Russian that serve both as derivational morphemes encoding lexical information and as grammatical markers of aspect. The analysis of *na-*'s semantic profile was undertaken generally from a Cognitive Grammar and Construction Grammar perspective, while findings from previous research on the semantics of *na-* were also considered.

In particular, the study discussed how *na*-predicates form a part of a Russian aspectual system which utilizes what is referred to as a 'double-framing' construction within Talmy's (2003a), and Croft's et al. (2010) cross-linguistic typology of complex predicate constructions: many predications with *na-* encode the framing component of a literal or metaphorical motion event both verbally through a spatial prefix (*na-*) and by using a satellite (a spatial preposition, also *na-*). The study then used Janda's (2007b) classification of Perfective types in Russian as well as the grammaticalization-lexicalization continuum proposed in Peskova (2013) to show the synchronic distribution of *na-*, both quantitatively and qualitatively. Quantitatively, I took the 40 most frequently occurring verbs with the *na-* prefix and used the data to show the comparative frequency of *na-* with various Complex and Simplex Predicate types, following Peskova (2013). Qualitatively, following Baydimirova's (2010) study of the semantics of the Russian spatial aspectual prefixes *ob-*, *o-*, and *obo-*, and Endresen et al.'s (2012) study of the prefixes *vy-*, *raz-*, *iz-*, *u-*, *vz-/voz-*, *ot-*, *pri-*, *pere-*, *pod-*, and *v-*, I supported the idea that prefixes can form polysemous clusters in Russian by proposing a Radial Category analysis for the various semantic uses of *na-*, following Lakoff (1988).

The study then analyzed each semantic subcategory given in the Radial Category

analysis, proposing a core image schema for the prototype meaning of *na-* and showing the cognitive mechanism of change for each subsequent semantic use of *na-*. The model proposed for *na-* in this study implies that *na-* is stored as a radial category with multiple members. Each member is related to the prototype via metonymical or metaphorical extensions of the core (physical) image schema, which is a visual representation of a complex motion event profiling the contact of a Trajector with a Landmark, which I term MOVE OVER AN OBJECT OR SURFACE. *na-* is therefore polysemous, with a range of both lexical and grammatical functions.

At the LESS LEXICALIZED/LESS GRAMMATICALIZED end of the spectrum, *na-* prompts the literal application of one of the three image schemas to predicates in the physical domain, or the metaphorical application of one of the image schemas to predicates in non-physical domains. This results in a range of lexical meanings for the prefix, a result of differing participant construals across individual predicates. In many of the semantically opaque metaphorical applications of the core image schema, seen in Subcategories (5) and (9), the Landmark is construed as an individual or other entity (as opposed to the more grammaticalized uses of *na-* where it is construed as a temporal boundary).

At the MORE GRAMMATICALIZED end of the spectrum, *na-* has a more grammatical function as a Resultative marker with Complex Act Perfectives as well as a marker of Perfective aspect. Nevertheless, these functions of *na-* are still attributed to *na*'s application of a complex motion event image schema to predicates, as in the case of Perfective aspect, where, as I have argued, a temporal boundary is construed as the Landmark: for Perfective, the completion of the event described by the predicate.

Like all verbal aspectual prefixes in Russian, *na-* originates as a spatial preposition. Diachronically, *na-* undergoes both lexicalization and grammaticalization; as a result, it is used

as a prefix for a wider array of predicates with a more semantically general grammatical meaning as well as undergoing semantic fusion with certain predicates.

This study has aimed to provide an account of the semantics and use of a single morpheme, a small element within the aspectual system of Russian as a whole and event predication in languages in general. Nevertheless, the function of *na-* provides a glimpse into how these larger systems function and evolve, both in cognition and interaction.

Appendix A.
Data Analysis for *na-* Predicates

#	Token Fr.(ipm)	Token	Most Frequent Construal	Eng Tran./Other Const.	Base Pr.	Base Pred. Freq.	Impf. Partner/Imp Created by	
1	473.3	*nachat'*	Perfective w/o V.R.	begin	none	n/a	*nachinat'*	infixation
2	424.1	*najti*	Specialized Perfective	find	*idti*	957.1	none	N/A
3	342.7	*nakhodit'sya*	Specialized Perfective	be found, be located	*khodit'*	296.6	none	N/A
4	336.2	*napisat'*	Natural Perfective	write (Pf.)	*pisat'*	444.3	*napisyvat'*	infixation
5	296.0	(*nachinat'*)						
6	293.4	(*nazyvat'*)						
7	205.1	*nazvat'*	Specialized Perfective	call (by other name)	*zvat'*	131.3	*nazyvat'*	infixation
8	197.4	(*nachat'sya*)						
9	137.1	(*nadeyat'sya*)						
10	135.3	(*nazyvat'sya*)						
11	125.0	*obnaruzhit'*	New Prefixed Perfective	discover	none	n/a	*obnaruzhivat'*	infixation
12	115.1	(*nachinat'sya*)						
13	109.9	*napravit'*	Specialized Perfective	guide, direct	*pravit'*		*napravlyat'*	infixation
14	106.2	(*napominat'*)						
15	95.5	*nablyudat'*	Prefixed Imperfective	observe	none	n/a	none	none
16	89.5	*nakhodit'*	Specialized Perfective	find, locate	*khodit'*	296.6	none	N/A
17	79.3	*naznachit'*	Specialized Perfective	denote	*znachit'*	134.4	*naznachivat'*	infixation
18	67.1	*nastupit'*	Specialized Perfective	step on, infringe	*stupit'*		*nastupat'*	infixation
19	65.2	*napomnit'*	Specialized Perfective	remind	*pomnit'*	363.1	*napominat'*	infixation
20	62.1	(*nauchit'sya*)						
21	58.8	(*najtis'*)						
22	51.2	*nadet'*	Specialized Perfective	put on	*det'*		*nadevat'*	infixation
23	44.1	*nenavidet'*	Prefixed Imperfective	hate	*videt'*		none	N/A
24	44.0	(*nastupat'*)						
25	43.7	*nabrat'*	Specialized Perfective	gain, dial a number	*brat'*			
26	43.7	*prednaznachit'*	New Prefixed Perfective	dedicate, designate	*znachit'*	134.4	*prednaznachat'*	infixation
27	43.2	(*nablyudat'sya*)						
28	40.9	*nadoest'*	Complex Act Perfective	be fed up (with smb.)	*doest'*		none	N/A
29	40.0	*ponadobit'sya*	New Prefixed Perfective	require, be in need of	*dobit'sya*		none	N/A
30	38.5	*nanesti*	Specialized Perfective	inflict, strike	*nesti*		*nanosit'*	anal. pref.
31	37.2	*nastaivat'*(*nastoyat'*)	Specialized Perfective	insist	*stoyat'*		*nastaivat'*	infixation
32	35.9	*narushit'*	Perfective w/o V.R.	break, violate	none	n/a	*narushat'*	infixation
33	35.8	*nauchit'*	Natural Perfective	study (Pf.)	*uchit'*		*nauchivat'*	infixation
34	35.5	*napechatat'*	Natural Perfective	print (Pf.)	*pechatat'*		same as Simplex	Simplex pred.
35	33.9	*narisovat'*	Natural Perfective	paint (Pf.)	*risovat'*		same as Simplex	Simplex pred
36	33.7	*nalit'*	Complex Act Perfective	fill	*lit'*		*nalivat'*	infixation
37	31.4	(*napravit'sya*)						
38	29.5	(*narushat'*)						
39	27.9	*napolnit'*	Complex Act Perfective	fill	*polnit'*		*napolnyat'*	infixation
40	27.3	*nabirat'*	Prefixed Imperfective	raise, muster	none		none	N/A

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