# The Syntax-Pragmatics Interface in Language Loss: Covert Restructuring of Aspect in Heritage Russian

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## Abstract

Heritage grammars, linguistic varieties emerging in the context of intergenerational language loss, are known to diverge from the corresponding full-fledged baseline varieties in principled and systematic ways, as typically illustrated by errors made by heritage speakers in production. This dissertation examines *covert* restructuring of aspect in heritage Russian, a grammatical reorganization of the perfective-imperfective opposition not manifested in overt errors. The aspectual system instantiated in acrolectal varieties of heritage Russian is shown to exhibit signs of covert divergence from the baseline system at the interface between syntax and discourse-pragmatics, manifested in a reduction of pragmatically-conditioned functions of the imperfective aspect with total single events. This emerging restriction leads to a gradual shift from a privative aspectual opposition in baseline Russian, where imperfective is the unmarked member, to an opposition of the equipollent type.

Experimental evidence presented suggests that heritage speakers differ from baseline Russian speakers in their use, acceptability ratings, and accuracy of interpretation of the imperfective aspect. In Russian, both aspects are compatible with completed events; however, aspectual competition is resolved in favor of the imperfective in the presence of discourse-pragmatic triggers that condition the general-factual functions of the imperfective: statement of fact, annulled result, thematicity and backgrounding. Assuming a multi-level approach to aspect, I maintain that the two aspectual systems converge on the level of the verbal predicate, where aspectual values of activities and accomplishments reflect compositional telicity, but diverge on the level of sentential aspect, where the contribution of telicity may be overridden by grammatical

aspectual operators and discourse-pragmatic aspectual triggers. The restructuring of aspect in advanced heritage grammars affects the highest level of sentential structure, a domain in which syntactic information is mapped onto discourse-pragmatic information (the C-domain).

In addressing the role of linguistic input in heritage language acquisition, the dissertation examines additional data from bilingual Russian-English speakers, including parents of heritage speakers. While bilingual speakers pattern with monolingual controls on comprehension tests, they differ from monolinguals in production of the imperfective with total single events, suggesting that competence divergence in advanced heritage grammars may be linked, across generations, to impoverished performance on C-domain properties.

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# List of Abbreviations

| | |
|---|---|
| ACC | accusative case |
| ADJ | adjective |
| ADV | adverb |
| BR | Russian-English bilingual |
| CLI | cross-linguistic influence |
| DAT | dative case |
| FEM | feminine gender |
| FUT | future |
| GEN | genitive case |
| HG | heritage grammar |
| HL | heritage language |
| HLA | heritage language acquisition |
| HR | heritage Russian |
| HS | heritage speaker |
| IMP | imperfective |
| IPR | imperative |
| INF | infinitive |
| INS | instrumental case |
| L1 | first language |
| L2 | second language |
| MSC | masculine gender |
| NEG | negation |
| NEUT | neuter gender |
| NOM | nominative case |
| PFV | perfective |
| PL | plural |
| PREP | prepositional case |
| PRES | present |
| PRT | partitive |
| PST | past |
| PTL | particle |
| REFL | reflexive |
| RR | monolingual Russian |
| SG | singular |
| 1 | first person |
| 2 | second person |
| 3 | third person |

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# Chapter 1 Introduction

Linguistic varieties undergoing the processes of grammatical restructuring in the context of intergenerational language shift have for a long time served as a unique and diverse linguistic laboratory for research on structural manifestations of language loss. Decades of cross-linguistic work on structural properties of heritage languages have not only contributed to significant advancements in sociolinguistic research, but also unraveled a number of issues with important theoretical implications for such linguistic fields as syntax, semantics, and language acquisition. Today, heritage language acquisition (henceforth, HLA) has emerged as an interdisciplinary linguistic field with promising implications for the study of the human language capacity, an issue that continues to be of central importance within linguistic theory at large.

The encoding of temporality through linguistic categories of tense and aspect is an area of vast on-going research within theoretical linguistics. Despite an increasing attention to and a growing body of linguistic work on the restructuring of aspect in heritage grammars, the issue remains excitingly complex both from the point of view of general theoretical linguistics, for we still haven't quite reached a consensus about aspect, and from the point of view of HLA, for we don't know much about heritage grammars. In striving to contribute to the literature on both battlegrounds, this dissertation investigates the aspectual system of heritage Russian (HR), a linguistic variety spoken with varying degrees of fluency by people whose L1 (Russian) has at a young age been replaced with a more dominant L2 (in this case, English). A language like Russian, where aspect is

undoubtedly one of the central categories in the verbal domain (and a subject of vigorous scholarly debate), provides a particularly promising case for advancing current theories of temporality based on qualitatively new data. On the basis of experimental evidence, this dissertation develops a model of aspectual restructuring in heritage Russian, argued to affect the highest level of syntactic structure, a domain known as the syntax-pragmatics interface, in advanced heritage grammars that appear to be otherwise target-like with respect to the encoding of the perfective-imperfective aspectual contrasts.

Insofar as they reach across several fields of linguistic inquiry, the implications of this work are hoped to be far-ranging: on the one hand, they bear theoretical relevance for the study of the intricate relationships between viewpoint aspect and lexical (or lexico-compositional) aspectuality in Russian, while on the other hand contributing to our understanding of the systematic processes that ultimately shape a unique linguistic system known as a heritage grammar, distinguishing it from the corresponding full-fledged baseline variety. As the following chapters will demonstrate, both avenues of research are still far from being well-paved. The remainder of this introductory chapter provides a necessary overview of the issues central to the investigation and outlines the goals and structure of the dissertation.

## 1.1 Heritage Grammars as Linguistic Systems

Heritage grammars, often described as divergent, reduced, or incomplete, albeit natively acquired linguistic systems, have proven to be a vast resource for current linguistic work, including work on aspect (Polinsky, 1996, 2008; Montrul, 2002; Pereltsvaig, 2002; Jia and Bayley, 2008; Bar-Shalom and Zaretsky, 2009, *inter alia*). Despite some lack of agreement in the literature with respect to the exact underlying

cause of the divergence of heritage grammars, frequently ascribed either to arrested development, insufficiency of input, or attrition (see Section 1.2 below for discussion), the term *heritage speaker* is used rather consistently to refer to an individual whose L1 has at a young age been replaced with a more dominant L2 under particular sociolinguistic circumstances, such as migration to another country, insufficient contact with other speakers of the L1, lack of formal instruction and literacy skills in the L1, and societal pressures that favor the L2 over the L1, among many others (see Section 1.1.1 below). The linguistic outcome of these circumstances is the emergence of systematic constraints or patterns that distinguish heritage speakers from the speakers of the corresponding full-fledged baseline varieties, due to total or partial restructuring of various areas of the grammar (some structural properties of heritage Russian are illustrated in Chapter 2 below). Despite some inevitable variability among heritage grammars (attributable, for example, to such factors as the degree of dissociation from the baseline variety, often defined in terms of individual speakers' proficiency level, as well as to specific structural properties of the languages in contact), many processes of grammatical restructuring in the context of heritage language acquisition have nevertheless been found to be surprisingly systematic, making it possible to describe heritage grammars as linguistic systems in their own right – systems characterized by a set of distinctive properties. On the one hand, heritage grammars have been shown to be distinct from the corresponding full-fledged L1 language varieties (hence the terms 'reduced,' 'divergent,' and 'incomplete'); yet, more recently they have also been found to differ from L2 interlanguage systems of the same languages, with heritage speakers receiving consistently different scores compared to proficiency-matched L2 learners on a

number of linguistic tests (e.g., Montrul, 2006; 2008a). Such special status of heritage learners has created much controversy in an educational setting, for example with respect to the placement of these learners into level-appropriate language classrooms: neither (full) L1 nor L2 language courses have been found to be entirely suitable for these speakers, whose linguistic development is characterized by some shared characteristics with both L1 and L2 learners, but no full convergence with either group. In the words of Kagan (2005: 213), "[f]or pedagogical purposes, heritage speakers cannot be viewed either as native speakers of the target language or as foreign language learners, and are best treated as a separate population requiring their own curriculum and materials." Setting aside the pedagogical challenges of identifying, testing, and placing heritage speakers in appropriate classrooms for the present moment, it will suffice to say that linguistic research on heritage grammars faces a similar need of careful background work, based on a solid understanding of who counts as a heritage speaker and what counts as a heritage grammar. In other words, if heritage speakers are to be approached as a unique group, then what exactly are the qualities that distinguish these speakers from native speakers and L2 learners, and what linguistic features characterize this variety? These questions are addressed in the following sections.

### 1.1.1 Who Are Heritage Speakers?

Recent heritage language acquisition research offers two sets of definitions with respect to the understanding of the term *heritage speaker*, which represent two possible conceptions of a heritage language, broad and narrow (Polinsky and Kagan, 2007). Minor differences within each set of definitions aside, two conceptions differ considerably in scope, as well as in goals. The broad conception of a heritage language as a language

with a great cultural significance is reflected in a rather inclusive definition of a heritage speaker as someone for whom a particular language has a special family, community, or cultural relevance (Fishman, 2001). For example, for someone whose parents or grandparents used to speak Korean natively, Korean may be considered a heritage language because of the special status and cultural significance of the language, even in the absence of any grammatical linguistic knowledge. Thus, the broad conception of the term heritage language includes not only individuals who are able to speak the language to which they have a special cultural connection, but also those who are only passively exposed to the language (e.g., because it is or was at some point spoken in their home or their community) and who are perhaps able to understand it to some degree, but are not speakers of that language in the most literal sense. This category of heritage speakers, in the broad sense of the term as discussed here, includes individuals who may know some lexical items and short phrases in the target language without ability to manipulate words in sentences – the so-called 'passive bilinguals' (Dorian, 1982) and 'overhearers' (Au, Knightly, Jun, and Oh, 2002).

The second, narrow conception of a heritage language excludes passive bilinguals and overhearers from the population of heritage speakers and instead suggests to define the term 'heritage speakers' as referring to individuals raised in homes where a language other than the current language of the society was spoken and "who are to some degree bilingual" in the dominant language and the minority language (cf. Valdés, 2000). The latter part of the definition, which emphasizes some degree of proficiency in the heritage language as a necessary condition of being considered a heritage speaker of that language, allows for a considerably more restricted scope of the term, defined at least

partially on linguistic grounds. Thus, the narrow definition is geared towards people who actually possess some structural knowledge of the heritage language, even if they don't speak it perfectly, rather than being connected to the language by emotional and cultural ties alone. Further, the knowledge of the heritage language must have been acquired (even if only partially) in a naturalistic setting, rather than in a language classroom; as Polinsky and Kagan (2007: 369) emphasize, "[c]ulturally motivated learners who learn their heritage language from scratch as adults are regular second-language speakers, albeit with a different motivation."

The idea that heritage speakers are usually imperfect speakers of what is technically their first language is addressed in Wong Fillmore (1991: 324), who notes that "few American-born children of immigrant parents are fully proficient in the ethnic language, even if it was the only language they spoke when they entered school." Decades of linguistic research on intergenerational language loss have shown that language shift in immigrant communities is virtually inevitable: "[i]ntense pressure from a dominant group most often leads to bilingualism among subordinate groups who speak other languages, and this asymmetrical bilingualism very often results, sooner or later, in language shift" (Thomason, 2001: 9). Thus, although the narrow conception of the term 'heritage speaker' takes some structural knowledge of the heritage language to be a necessary condition, it is generally assumed that the level of linguistic competence exhibited by heritage speakers will most likely only approximate that of competent monolingual speakers to certain extents, without being fully analogous to it. In the words of Bar-Shalom and Zaretsky (2008), "[l]oss of language-specific morphosyntactic structures, as well as the lexicon, is a hallmark of a 'heritage language'" (p. 281).

In addition to assuming some (although not full) extent of linguistic knowledge, the narrow definition of the term 'heritage speaker' also requires that the heritage language is necessarily not the dominant language of the society, and as such it is not spoken by that society at large, except in some smaller communities or at home. This element of the definition is consistent with the idea that heritage languages are generally known as 'home languages' or 'community languages' (Yeung, Marsh, and Suliman, 2000; Wiley, 2001), as they are always acquired in a naturalistic setting, without explicit formal instruction, and usually only in an oral form, without exposure to literacy or in some cases even to the standard dialect (which for some languages may be accessible only through formal education).

As per the narrow definition, heritage language acquisition is necessarily bilingual language acquisition. However, it is important to keep in mind that it presents a special case of bilingual acquisition and cannot always be equated with it. Thus, heritage speakers are bilingual (although, in some cases, only to a certain extent), but not every bilingual individual would be a heritage speaker of one of the languages. For example, Polinsky (2000, 2006a) draws an important distinction between two different groups of Russian-speaking immigrants in the US: those who use Russian as a primary language of communication, and those for whom Russian is secondary to English. Although Russian remains an L1 for both groups of speakers, only the latter groups of speakers fit the definition of heritage speakers (i.e., American Russian speakers in Polinsky's terminology). The variety of Russian spoken by the former group is referred to as Émigré Russian. Both varieties are contrasted with Full Russian, the baseline variety spoken natively in Russia and other Russian-speaking countries.

Heritage language acquisition is a type of bilingual acquisition, known also as subtractive bilingualism – loss of a minority language as a result of the acquisition of the majority language (Kouritzin, 1999; Lambert, 1975), but of course not every case of bilingual acquisition is subtractive. Unlike many bilingual situations in which two languages are acquired and subsequently used side by side, subtractive bilingualism is characterized by unequal exposure to the two systems with respect to the quantity and quality of the input in the heritage language (usually severely reduced, compared to the dominant language) and the timing of exposure to the two languages. The heritage language is always introduced first and used from birth and in early childhood, but the intensive initial exposure is subsequently interrupted, either considerably reduced or altogether stopped, due to a switch to the dominant language (usually around pre-school). For these reasons, determining if someone is a heritage speaker of a language takes more than establishing some degree of bilingualism in that language and another; the sociolinguistic circumstances of the exposure to the non-dominant language, including age of the exposure, age at which the exposure was interrupted, patterns of language use (at home and outside), availability of schooling and exposure to the written standard are some of the crucial factors that must be considered in order to establish that the language in question had in fact been acquired in a subtractive bilingual setting and identify a speaker as a heritage speaker.

The narrow definition of heritage speaker as a *bilingual* with early naturalistic exposure to a minority language, followed by a switch to the dominant language, is one that is currently assumed in linguistic research on heritage grammars, and one that I will use in this work. Hence, the term ‘heritage speakers of Russian’ will be understood for

the purposes of this dissertation as referring to people with some degree of linguistic proficiency in Russian, who were exposed to Russian at home growing up, but who eventually became more proficient in English because it was the dominant language of the community. This definition is consistent with the narrow definition discussed here as well as with the existing broad definitions: in fact, all heritage speakers interviewed in this study expressed a strong emotional connection and cultural ties to the language (cf. Fishman, 2001). However, the difficulty of applying the broad definition in the context of linguistic research on HLA without restricting it in some way is emphasized in Rothman (2009: 156), who points out that under a liberal (broad) definition, all languages in all contexts may potentially be perceived as heritage languages, as they are all acquired in a naturalistic setting and are linked in some sense to cultural background.

Although the term 'heritage speaker' is relatively new, as it has been in use in the US for a little more than a decade (Polinsky and Kagan, 2007), the linguistic varieties that we today refer to as heritage grammars have for a long time inspired and informed linguistic research. Multiple investigations on intergenerational language shift, obsolescence and death in various parts of the globe have established a firm foundation for current linguistic work focused on immigrant and community languages in the US; in fact, as the following sections will illustrate, the concept of a heritage speaker has many features in common with the notion of a semi-speaker introduced and developed in Nancy Dorian's work on Gaelic in east Sutherland, Scotland (1977, 1980, 1982, 1989), both in terms of sociolinguistic and structural linguistic descriptions.

### 1.1.2 E Pluribus Unum: The Heritage Continuum

Chapter 2 will provide a comprehensive grammatical sketch of heritage Russian as a linguistic system, highlighting its most distinctive structural properties. Before such introductory description can be made, however, it is important to underscore the fact that heritage grammars are indeed best viewed as linguistic systems, i.e. systems governed by rules in a principled way, and that despite vast variation among speakers, the overall emerging linguistic characteristics of these systems remain both internally uniform and astoundingly consistent with what we know about the general principles of language development, making it possible to make generalizations about the structural properties of these varieties at large despite the existence of predictable systematic variation within the varieties themselves.

In addressing the issue of variation in creole languages, Bickerton (1975: 7-14) juxtaposes a "heuristic model of a uniform and homogeneous speech-community," applied in early linguistic work, with the new notion of a linguistic continuum, arguing that it is possible to approach a continuum as a single albeit non-homogeneous unit. In the context of rapid language change, observable in the development of creoles and heritage languages alike, certain heterogeneity within the continuum is not only an expected but truly a necessarily consequence: In the model of language change proposed in Weinreich, Labov and Herzog (1968: 155), "all change involves variability" and "[t]he generalization of linguistic change through linguistic structure is neither uniform nor instantaneous." Bickerton's (1975) description of a creole system as a union comprised of related linguistic varieties representing "a constant succession of restructurings of the original system, across the continuum, yielding a very gradual transmission in terms of

surface forms between the two extremes" may also serve as a characterization of a heritage linguistic system. Bickerton's (1977: 49) definition of creolization as "first-language learning with restricted input" fits exceptionally well with the concept of bilingual language acquisition in the context of intergenerational language loss, and it is not surprising that heritage languages have often been successfully represented by a continuum model – as collections of grammars with varying degrees of dissociation from the baseline language, rather than as a single standard variety to which all speakers uniformly conform.

Silva-Corvalán (1991) adopts the continuum model in her study of tense-aspect-mood attrition in the Spanish spoken by Spanish-English bilinguals in Los Angeles – a complex community described as "a bilingual continuum, similar to a creole continuum in that one may identify a series of lects ranging from full-fledged to emblematic Spanish […] depending on whether the bilingual is more or less dominant in Spanish…" (p. 151). Polinsky (1996) also adopts the continuum model for American Russian and classifies speakers along a proficiency continuum into acrolectal, mesolectal, and basilectal as follows: "In the case of language attrition, acrolectal speakers are those whose language system is least removed from the respective full language. At the other extreme, basilectal speakers demonstrate greatest deviation from the full language. The intermediate varieties are then characterized as mesolectal" (Polinsky, 1996: 72).

In discussing the issue of variation in heritage languages, Polinsky and Kagan (2007: 370-371) stress the idea that any linguistic variety is inevitably subject to variation among speakers, and heritage grammars are certainly no exception; in fact, heritage languages typically exhibit a greater range of variation than baseline languages – an

observation that “often leads to the suggestion that heritage languages are not systematic.” The authors argue against this view, suggesting that despite vast variation, it is possible to study heritage languages as linguistic systems in their own right: “[t]he illusion of endless variation comes from our neglecting to look closer and recognize groups within the accepted variation range” (Polinsky and Kagan, 2007: 371). Following Polinsky’s (1996) adaptation of the continuum model for American Russian, the relevant groups are presented along a proficiency continuum in the following way (from Polinsky and Kagan, 2007: 372):

| | | | | | | |
|---|---|---|---|---|---|---|
| (1) | { | basilect heritage | mesolect heritage | acrolect heritage | } | baseline |

Speakers classified as belonging to the acrolectal group are described as “high-proficiency speakers” who “can be objectively shown to be near-native, maximally close to a competent (albeit not formally or fully educated) speaker.” In contrast, speakers on the opposite end of the spectrum are referred to as “lowest-proficiency” speakers, who are “maximally removed from native attainment and who show many deviations from the baseline” (Polinsky and Kagan, 2007: 371). Based on the examples of basilectal speakers discussed in Polinsky and Kagan (2007: 371), this group includes not only speakers who exhibit multiple deviations from the baseline, but also the so-called overhearers, or people who are only exposed to their home language without being able to speak it (i.e., heritage speakers in the broad sense of the term).

Dorian’s (1981) work on intergenerational language also emphasizes varying degrees of linguistic competence among speakers at the last stages of language shift and

classifies these speakers based on proficiency levels. These levels, arranged from most to least fluent, fall in the following three categories: 'young fluent speakers' (people with native command of the ancestral language, with only subtle deviations from the norms of the fluent older speakers), 'semi-speakers' (people without native command of the language who nevertheless continue to use the language in certain contexts) and 'passive bilinguals' (people who are able to understand the language but have no production skills of any kind). Dorian's (1981) three-way classification based on closeness to the ancestral language is parallel to the classification presented in (1) above; here, young fluent speakers would correspond to acrolectal speakers, and passive bilinguals would most naturally represent the basilectal variety, which is located at the end of the continuum that is farthest from the baseline and includes low-proficiency speakers and overhearers. The middle part of the continuum, equidistant from both ends, would include semi-speakers as representing the intermediate, mesolectal variety of the heritage language[1].

Bickerton (1975: 24) emphasizes that the classification of creole varieties into basilectal, mesolectal and acrolectal should be taken to represent sectors of an otherwise uniform continuum, and that these varieties "should in no circumstances be reified as discrete objects (in the way that languages and dialects are traditionally reified). They are named in this way solely for convenience of reference; they blend into one another in such a way that no non-arbitrary division is possible" (Bickerton, 1975: 24). Similarly, there is a general sense that despite considerable variation within the heritage language

[1] In creole studies, the mesolectal sector is generally taken to cover a broad range of varieties; for this reason, it is frequently sub-divided into additional intermediate sectors. For example, Bickerton (1975: 24) distinguishes between "the *lower mesolect* (that part of the mesolect closest to the basilect), the *upper mesolect* (that part of the mesolect closest to the acrolect), and the *mid-mesolect* (that part of the mesolect roughly equidistant, in terms of rule-changes, from basilect and acrolect)". A similar distinction, if necessary, can be adopted in studies on heritage languages to capture the finer differences between speakers in the middle of the spectrum.

continuum, systematic deviations from the baseline and grammatical innovations in heritage grammars tend to occur along a predefined path.

Comparative studies of multiple genetically and structurally different heritage languages (e.g., Maher, 1991; Polinsky, 1995) have pointed to intriguing structural similarities between heritage grammars of these languages. Coupled with decades of cross-linguistic research on structural consequences of intergenerational language shift in immigrant and indigenous communities, these studies have made it possible to pinpoint a number of common linguistic principles driving the development of heritage grammars. For example, the following restructuring processes have been argued to represent cross-linguistically common phenomena under intergenerational language loss (from Maher, 1991: 68):

(2) (a) Reduction in the number of allomorphs (i.e., more invariable forms, or fewer context sensitive rules). Increased paradigmatic regularity.

(b) Replacement of synthetic forms by analytic ones or by periphrastic constructions.

(c) Progressive reduction in inflectional morphology, entailing less flexible word order.

(d) Preference for coordinate rather than embedded constructions.

(e) Distinctive aspectual constructions in verbal systems.

### 1.2 The Source(s) of Divergence

Recent work on heritage language acquisition has been focused not only on identifying structural properties of heritage grammars, such as those summarized in (2)

above, but also on understanding the underlying processes that drive the development of heritage grammars as linguistic systems, often described as divergent or incomplete compared to the corresponding baseline varieties. Competing hypotheses have been proposed to account for the lack of full convergence between a heritage grammar and a corresponding baseline system.

On the one hand, arrested development has been taken as the main source of divergence: for instance, according to Montrul (2006: 351), a heritage grammar can be incomplete with respect to the target "because it has ceased to develop some time in childhood and fossilized." In other studies, emphasis has been placed on the role of the subsequent development and reanalysis of the grammar (often manifested in reorganization and simplification), which is argued to take place once the input becomes unavailable or limited. For example, Polinsky (2008: 161) suggests that "the adult heritage speaker is not just 'frozen' or 'fossilized' at the stage of interrupted acquisition… [his or her] grammar develops as a result of a reanalysis of the mental representation rescued from the childhood years […], presumably shaped by the interference from English and some universal principles governing language development with limited input." Although the two approaches are certainly not irreconcilable, each one offers a particular set of predictions with respect to the outcome of HLA, a grammar of an adult heritage speaker.

In the absence of solid longitudinal data, it is not yet possible to estimate the extents to which the various sources of heritage language competence divergence determine the grammatical effects observed under HLA. The following sections of this chapter present an overview of positions on the issue of possible sources of heritage

competence divergence, with the main focus on those most frequently assumed in existing studies on heritage language development: (i) attrition, (ii) incomplete acquisition, (iii) (possibly complete) acquisition of incomplete/divergent input, (iv) transfer from the ambient language, (v) universal principles of language development in the context of language disuse.

### 1.2.1 Attrition

The term 'language attrition' is commonly defined as the loss of language skills. However, as observed by DeGraff (1999), many linguistic terms, especially those referring to complex multi-dimensional phenomena (e.g., *language*, *grammar*, *development*), tend to exhibit consistent variation between a microscopic and a macroscopic scope: on a microscopic level, these terms apply to "linguistic knowledge-states in individual speakers' heads," while on a larger macroscopic scope, they refer "to the aggregate outputs (behavioral manifestations) of these knowledge-states at the social level of communities of speakers" (p. 1). The term 'attrition' is undoubtedly a term that displays a similar contextual duality of use on the macro- and micro- levels. As pointed out in Seliger and Vago (1991: 3), "attrition phenomena develop in bilingual individuals as well as bilingual societies." On the macro-level, or the societal level, the term is used as a synonym of intergenerational language shift (i.e., incomplete transmission of a language by speakers of one generation to the next), which ultimately often leads to language death (Dorian, 1981), i.e. complete disappearance of the linguistic variety from the global linguistic repertoire of the humankind. On the micro-level, or the individual level, the term 'attrition' refers to linguistic changes in an individual speaker's grammar (i.e., gradual loss of language skills in an individual). The fact that individual attrition and

community-level attrition are in principle distinct (although certainly interrelated) phenomena finds its reflection in the methodological and often terminological divide between macro- and micro-attrition studies in the linguistic literature. While individual attrition has established itself as a relatively narrow field of particular interest to psycholinguists, L1, L2 and bilingual language acquisitionists, and in some cases language pathologists, the study of attrition on the macro-level is typically associated with the domain of sociolinguistics: "everything happening within the context of a community is likely to be the development of a contact variety which is a sociolinguistic phenomenon related to language change and should be distinguished from individual attrition" (Köpke et al., 2007: 28). Similar distinctions are often drawn between sociolinguistic studies on heritage language acquisition and work conducted from a strictly acquisitionist perspective; in the words of Polinsky (2006a: 2), "it is often hard to make two separate subfields within linguistics [e.g., language acquisition and sociolinguistics] to talk to each other."

The existence of multiple separately identifiable theoretical and methodological approaches to attrition has made it possible to characterize it as a field "at the crossroads of brain, mind, and society" (Köpke et al., 2007: 9). However, the field has not always been quite so interdisciplinary. Earliest studies on contact-based grammatical restructuring in the minority language were conducted almost exclusively from the sociolinguistic perspective, with structural variables often considered strictly in relation to sociolinguistic variables, and were ultimately aimed at addressing larger issues of language maintenance and revitalization (Schmid, 2002; Köpke and Schmid, 2004: 5 and references therein). More recently, more emphasis has been placed on the theoretically-

informed approaches to studying attrition as a window into the human mind and language potential (Polinsky, 2006a), as a testing laboratory for linguistic theory (including particular syntactic theories and theories of language acquisition) that strive to model and explain this potential (Tsimpli, 2007; Polinsky, 2006a), and as a neuropsychological phenomenon with implications for understanding our general cognitive capacities, such as declarative and procedural memory (Paradis, 2007).

Early studies of Russian in the US by Polinsky (1995, 1996) were framed largely as an investigation of language endangerment and possibly language death in an immigrant setting. Because the more current terms 'heritage language' and 'heritage speaker' were not yet in use in the early nineties, the variety under consideration was referred to as American Russian. Following the conventions of earlier literature on language attrition, the terms 'semi-speakers' and 'terminal speakers' were used to refer to the imperfect speakers of the heritage language. However, the linguistic variety in question was explicitly contrasted with Émigré Russian in order to unambiguously exclude competent bilingual Russian-English speakers (i.e., those who would not be considered heritage speakers in our narrow definition), making early studies of American Russian fully comparable to other studies on heritage grammars, particularly those that assume an incomplete acquisition approach, discussed in the following section.

### 1.2.2 Incomplete Acquisition

While early work on structural properties of heritage grammars (e.g., Silva-Corvalán, 1991, 1994; Polinsky, 1995, 1996, 1997) was conducted from the perspective of attrition, current studies addressing heritage speakers' language competence often discuss the phenomenon of intergenerational language loss in the context of incomplete

or interrupted acquisition (Montrul, 2002, 2006; Polinsky, 2006a, 2009). Just like attrition, the term 'incomplete acquisition' has been used (sometimes interchangeably) on the macro- and micro- levels.

At first glance, the term 'incomplete acquisition' could be perceived as contextually synonymous with 'attrition' in reference to the larger process of intergenerational language loss. However, if incomplete acquisition is to be understood as failure to acquire language skills, while attrition refers to the loss of language abilities previously acquired, then a principled distinction can be drawn between the two processes on the micro-level. For example, Montrul (2009: 240) argues that "[a]s an individual phenomenon, attrition implies that a grammatical system had a chance to develop completely … and remained stable for a while before some grammatical aspects eroded later on." However, in the absence of longitudinal data, and without a clear consensus on when particular grammatical features or properties can be considered to be fully and once-and-for-all acquired, developed, and stable in a given language, it is difficult if not impossible to make definitive claims about whether particular distinctive properties of heritage grammars are due to attrition (erosion) or incomplete acquisition (arrested development).

Indirectly, the two sources of divergence can be teased apart by comparing the manifestations of certain grammatical properties in the data from heritage speakers to studies on L1 acquisition of the same grammatical properties, using the age of interrupted exposure to the L1 in the heritage group as a litmus test. If the age of such interruption precedes the age at which the grammatical properties in question are shown to be acquired by monolingual children, incomplete acquisition of these properties remains a

viable explanation. However, if the age at which these properties are shown to be acquired in the target grammars precedes the age at which heritage speakers switch to another language by many years, the incomplete acquisition/fossilization explanation is theoretically difficult to sustain. For example, in accounting for a shift from a three-way argument case system in baseline Russian to a binary argument case system in heritage Russian (see also Section 2.2 below), Polinsky (2006a) compares the histories of heritage speakers to the age at which monolingual children achieve error-free performance on the argument cases, namely 2;7 years, according to sources cited in Polinsky (2006a). It appears that "[e]quating this stage with the stage at which *any* incomplete acquirer stops or is severely hampered in their acquisition of Russian is unrealistic – the histories of my subjects show that uninterrupted acquisition of Russian could have gone all the way to age 7;0" (p. 33). A similar conclusion emerges on other variables: for example, loss of the subjunctive (see also section 2.8 below) in heritage Russian is not easily accounted for under the incomplete acquisition hypothesis because evidence shows that Russian "children between 4 and 5 show adult grammar with respect to the subjunctive" (Polinsky, 2006a: 34). Because the interruption in the acquisition of Russian happened only after that age for heritage speakers, and because these speakers nevertheless exhibit lack of control of the subjunctive, one is forced to consider alternative explanations for the observed phenomenon.

Another strategy of possibly teasing apart the effects of incomplete acquisition and fossilization from effects of attrition involves comparing child and adult heritage speakers on the same grammatical properties. This approach is undertaken in Polinsky (2007), who examines narratives elicited from a nine-year-old and a twenty-three-year-

old heritage speakers, both of whom stopped using Russian at around age five upon entering kindergarten and have otherwise similar profiles. The two narratives are shown to exhibit striking differences on multiple grammatical properties. The fossilization approach fails to account for such dramatic mismatch between the two grammars; on the contrary, it predicts similarities between the two grammars, because the age of interrupted exposure (i.e., age of fossilization) is the same for both speakers.

In practice, while recognizing a principled distinction between the two causes for heritage competence divergence, many scholars now agree that incomplete acquisition and attrition are not easily separated and may (or, perhaps, even should in some contexts) be viewed as two sides of the same coin. For example, Polinsky (2006a) explicitly relates the two phenomena when she states that "*language attrition through which incomplete acquisition is manifested* should not be considered the monopoly of sociolinguistic studies, which it has often been" (p. 50, *italics added*); similarly, in her most recent work Montrul (2009: 241) acknowledges that "both incomplete acquisition and attrition as processes may even affect different grammatical features in the same individual at the same time, subsequently, or even together, depending on their acquisition schedule." For some scholars, the term 'incomplete acquisition' is thus largely synonymous with child L1 attrition (Gürel, 2008: 432), because in some cases distinguishing between what an individual child had learned and then forgot and what (s)he never had a chance to learn is virtually impossible without longitudinal data, given the non-linear nature of the acquisition process and a large amount of individual variation.

Besides empirical and methodological difficulties in separating the effects of childhood attrition from the effects of incomplete acquisition on the micro-level, the

picture is further complicated by the fact that the terms 'attrition' and 'incomplete' acquisition nearly converge on the macro-level. In some of her recent work, Montrul (2006: 337) defines incomplete acquisition as "a particular case of L1 loss because the family language fails to be *fully* transmitted from one generation to the other." This interpretation of the term comes close to the macro-definition of attrition, e.g. one given in Polinsky (1995: 88): "the process whereby a given grammar undergoes a significant reduction when it is passed from one generation to the next."

In discussing incomplete acquisition as a particular case of intergenerational language loss, Montrul (2009) uses the term to describe the outcome of incomplete transmission of the language across generations, i.e. "the non-target-like ultimate attainment of adult early bilinguals (heritage speakers), which may be the result of *many different situations* leading to input reduction in childhood" (p. 241, *italics added*). The following sections will explore factors that have been linked to the emergence of competence divergences in heritage grammars.

### 1.2.3 A New Take on 'Poverty of the Input'

The 'attrition vs. incomplete acquisition' debate, which in and of itself is far from being put to rest (partly in the absence of solid longitudinal data on the issue and partly because of some terminological variability with both terms) has more recently been complicated by an existence of yet a third possible source of heritage competence divergences. According to a view advocated in, e.g., Rothman (2007, 2008) and Pires and Rothman (2009), competence divergence in heritage speakers may be due to quantitative and qualitative properties of the input they receive in the heritage language: "input and use of the family language may become severely reduced in sheer quantity and modified

in quality, eventually affecting the children's command of the family language compared against age-matched monolinguals and so-called balanced bilinguals" (Rothman, 2009: 157). In this approach, it is suggested that only properties that are unambiguously present in the primary linguistic data available to heritage speakers can technically be either attrited (lost) or not completely acquired. However, the authors ask, what if some of the grammatical properties on which heritage speakers diverge from the monolingual standard, against which they are usually compared, are simply not present in the input to which they are exposed? That is, if some of the incompleteness in a heritage grammar can be attributed to absence of certain features in the input, because the relevant input is often represented by contact-based dialectal varieties, rather than the standard variety of the baseline language, then is the term 'incomplete acquisition' an appropriate characterization of what is going on in a heritage grammar?

In addressing this question, Pires and Rothman (2009) examine the occurrence of inflected infinitives[2] in the data from heritage speakers of European Portuguese in comparison with experimental data from Brazilian Portuguese reported earlier in Rothman (2007). Comparison of two dialectally different groups of heritage speakers on a single grammatical property yields interesting results. While European Portuguese (EP) heritage speakers exhibit fully native-like syntactic and semantic competence of inflected infinitives, heritage speakers of Brazilian Portuguese (BP) do not demonstrate similar knowledge and thus differ significantly from the baseline speakers of BP. In accounting for these findings, the authors address the fact that inflected infinitives in BP are only

[2] There are two types of infinitives in Portuguese: inflected and uninflected. Only inflected infinitives carry overt person/number agreement. Inflected infinitives exist in the standard variety of Brazilian Portuguese but not in its colloquial varieties. In contrast, both the standard and colloquial varieties of European Portuguese preserve inflected infinitives (Pires and Rothman, 2009).

attested in the standard dialect and as such are acquired by native speakers through schooling: "BP colloquial dialects no longer contain inflected infinitives, but … educated monolinguals come to learn their properties via sufficient exposure (primarily by means of … formal education) to the standard dialect that conserves inflected infinitives" (Pires and Rothman, 2009: 231). Because heritage speakers of BP do not receive formal instruction in the language and are not exposed to the formal dialect, they cannot be expected to have acquired the property. In contrast, EP maintains inflected infinitives in both standard and colloquial dialects. This, in turn, explains why EP heritage speakers are native-like in their knowledge of inflected infinitives.

Based on these findings, the authors argue that "neither incomplete acquisition nor attrition hinders the acquisition of inflected infinitives" by heritage speakers of BP, suggesting that "insufficiency of input from a standard dialect can affect acquisition" (Pires and Rothman, 2009: 211). This predicts that heritage speakers of different dialects can in principle exhibit competence mismatches in areas where the colloquial dialects to which they are exposed diverge from the monolingual standard norm.

In comparing 'normal' language acquisition with the acquisition of creole languages, Bickerton (1999: 57) emphasizes that "the *process* of acquisition differs not at all in the normal and creole cases." Instead, the difference between the two scenarios essentially boils down to the specific properties of the input[3]. In shifting the main focus of attention to particular properties of the input, rather than the special nature of the

[3] In both cases, "children come equipped with a unitary, invariant core syntax that can be expressed in terms of a set of immutable principles;" however, under 'normal' conditions, a child finds enough data in the input to ultimately arrive at a preexisting grammar, while in the creole case, the child cannot find enough data in the input to satisfy the innate grammatical requirements and "[g]rammatical items therefore have to be created…" in accordance with the innate principles (Bickerton, 1999: 57).

acquisition process *per se* in the heritage and 'normal' L1 acquisition scenarios, Pires and Rothman (2009) make a comparable claim, placing heritage language acquisition research in the context of current studies of diachronic linguistics and language change.

The idea that dialectal variation in the baseline variety may prove to be a significant factor in understanding heritage language acquisition is addressed in Polinsky and Kagan (2007), who emphasize that it is a common misconception to assume that heritage speakers' baseline language is the same as the standard variety used in the schooling system, literature, and the media. On the contrary, heritage speakers are often only proficient (to varying extents) in particular geographically marked vernacular varieties of the target language, usually represented by contact-based varieties (i.e., varieties that exist in a close linguistic contact with another language). The latter observation brings us to the next possible source of competence divergences in heritage grammars, the issue of cross-linguistic influence.

### 1.2.4 Cross-Linguistic Transfer

The role of cross-linguistic transfer in the development of a heritage grammar has for many decades remained at the center of research on attrition and incomplete acquisition. The idea that the ambient (dominant, interfering) language plays some role in the formation of a heritage grammar has been expressed in multiple studies; as pointed out in Kaufman (1995: 45), "[a]ttrition does not operate in a vacuum; contact between the developing L2 that is the dominant language in the child's environment and the L1 that is dramatically reduced in this environment results in restructuring of the L1 and the emergence of new forms that are uniquely a consequence of attrition and are unprecedented in acquisition." Inherent in this view is the idea that neither attrition (i.e.,

simplification and regression) nor fossilized acquisition alone can explain all restructuring processes in heritage language acquisition, and that a linguistic investigation of these processes must take into account the interfering L2 as a necessary factor and a potential source of some linguistic innovations. Kaufman (1995) distinguishes between two types of processes in grammatical restructuring common in heritage acquisition: the autonomy process, which causes grammatical changes that are due to intra-language interaction between elements of the L1, and the interaction process, which generates forms that emerge as a result of the influence of the L2 on the L1. Based on her analysis of verb innovations in the data from Hebrew-speaking children growing up in the US, Kaufman (1995) concludes that although the autonomy and interaction processes are in principle distinct, they work in tandem to form unique rules and representations in heritage grammars (pp. 45, 60).

While the existence of the interaction processes, manifested through cross-linguistic transfer, is explicitly acknowledged in most studies on heritage language development, the extent of the L2 influence on various parts of the L1 system is not entirely understood. Some early studies on grammatical restructuring in the context of intergenerational language loss have described language shift as essentially a gradual process of convergence towards the L2. In this view, L1 is heavily influenced by the dominant (or interfering) L2 in that the rules of L2 gradually replace the rules of L1 via the process of *transfer*. This explanation has been referred to as the cross-linguistic influence (CLI) hypothesis (Sharwood Smith, 1983). In light of this hypothesis, adopted to various extents by a large number of studies (Altenberg, 1991; Kaufman and Aronoff, 1991; Major 1992; Pavlenko, 2000, 2004; Seliger, 1991, *inter alia*), transfer is

investigated as a significant factor in L1 restructuring; for example, Gürel (2008: 432), following Pavlenko (2000), defines attrition as "L2-induced L1 change or restructuring in an individual speaker's grammar." The effects of the L2 on the L1 have been particularly well-documented in the domain of the lexicon; however, a number of cross-linguistic empirical studies also find considerable grammatical L2 transfer effects on the L1 in areas of case, number, gender marking, use of prepositions and pronominal elements, verbal morphology, word order, and verb subcategorization (Tsimpli, 2007: 84 and references therein).

Some of the early studies on Russian in immigrant communities in the US have assumed transfer as perhaps the main (if not the only) cause of divergence in Émigré Russian. For example, Benson (1960: 163) discusses "differences in the extent of *English linguistic penetration* among various speakers" (*italics added*) and suggests that the characteristic features of Russian as spoken in the US are largely a consequence of the English influence: "…there are those whose Russian has been so *corrupted* that much of it would be incomprehensible to a monolingual speaker of Soviet Standard Russian (SR)"; "[t]he *degree of English influence* on the speech of an individual immigrant is obviously determined by several factors…" (Benson, 1960: 163, *italics added*). Comprehensive investigations of the language of the Russian emigration provide multiple examples of lexical transfer in the speech of Russian immigrants in Italy, France, Germany, Finland, and the US (Zemskaja, 2001; Andrews, 1999).

However, studies by Benson (1960), Andrews (1999), and Zemskaja (2001) address the issue of transfer in the speech of the Russian immigrant community at large, a community which in addition to heritage speakers includes competent speakers of

Russian, for whom Russian continues to be the main (dominant, primary) language. Examples below illustrate lexical influence from English (i.e., borrowing and calquing) in the data from heritage speakers (see also Section 2.9 for additional examples). The following examples[4], attested in naturalistic production, are from Laleko (2007):

(3) pol dnja budem **imet'** **fun**
half day.GEN will.PL have.IMP
'We will have fun for half a day'

(4) printsessa **v** **lubvi** **s**…
princess.NOM in love.PREP with
'Princess is/was in love with…' (cf. RR 'lubit' or 'vlublena')

(5) Ja eshe odin **urok** **bral**
I more one lesson.ACC took.IMP
'I took one more course'

Initially, it seems that lexical transfer from English operates in heritage Russian as well as in all immigrant varieties of Russian in general. In light of previous accounts, one could perhaps even speak of a massive cross-linguistic transfer as a consequence of bilingualism in a HLA context; however, it is important to keep in mind that lexical traces of English influence may also exist in heritage Russian not because of a direct cross-linguistic transfer from English *per se*, but because these features also exist in Émigré Russian (the variety spoken by the larger community of Russian speakers in the

[4] All Russian examples are transliterated following standard conventions. The letter *y* is used to represent the high back unrounded dorsal vowel. The apostrophe after a consonant (e.g., *s'*) indicates phonemic palatalization. In instances where palatalization is predictable (i.e., before front vowels), the apostrophe is omitted.

US, including the parents of heritage speakers) and are “passed down” to the next generation as part of the linguistic variety. In principle, then, an argument can be made that competence in English on behalf of heritage speakers, while certainly an important factor for transfer, is not necessarily the single primary cause of these innovations, and that cross-linguistic transfer as a linguistic phenomenon may have external, rather than just internal, sources.

Based on the available corpus of data, it seems that the effects of transfer are not limited to vocabulary in heritage Russian, but encroach on some areas of the grammar. For example, sentences (6) and (7) below, constructed independently of each other by two heritage speakers, illustrate a phenomenon known as resultative secondary predication (represented by resultative constructions such as ‘paint the wall red’ or ‘hammer the metal flat’). In English, these constructions involve a transitive verb followed by a noun phrase whose resultant state is described in the phrase known as the resultative. The resultative denotes the state achieved by the referent of the noun phrase as a result of the action denoted by the verb (Levin and Rappaport Hovav, 1995). Thus, for instance, the resultant state of the wall that has been painted red is red. Russian, in contrast to English, does not have this type of resultative construction. Hence, the interpretation of the Russian sentences below is likely not the one intended by the speakers: in both cases, the color is understood as the original color of the house that has been subsequently painted, as in *We painted a blue house* in (6) and *We painted a red house* in (7).

(6) My pokrasili dom **sinego** **tsveta**.
we painted.PFV house.ACC blue.GEN color.GEN
'We painted the house blue'

(7) My pokrasili dom **krasnogo** **tsveta**.
we painted.PFV house.ACC red.GEN color.GEN
'We painted the house red'

In order to change the interpretation of the color noun phrase to indicate the resultant, rather than the initial state of the house, the preposition *v* 'in' would be used in Russian:

(8) My pokrasili dom v **sinij** **tsvet**.
we painted.PFV house.ACC in blue.ACC color.ACC
'We painted the house blue'

Omission of the complementizer *chto (shto)* 'that' in indicative subordinate clauses[5] appears to be yet another manifestation of syntactic influence from English. This complementizer is frequently optional in English (particularly in colloquial registers), but not in Russian:

(9) Maya mama skazala __ ona kupit mne mashinu
my mom said.PFV she.NOM buy.FUT.PFV me.DAT car.ACC
na mojo dvatsataja denrashdenja.
on my.NEUT.ACC twentieth.FEM.NOM birthday.FEM.NOM
'My mom said __ she would buy me a car for my twentieth birthday'

[5] Note, however, that *shto* is preserved in subjunctive clauses, where it appears in place of *shtoby* (see Section 2.8).

(10) Ja dumaju __ mame na den' rozhdenija sdelaju tort.
I think.IMP mom.DAT on day.ACC birth.GEN make.FUT.PFV cake.ACC
'I'm thinking __ I'll make a cake for my mom's birthday'

Examples (11) and (12) provide additional evidence for syntactic transfer at the clausal level: the use of complementizer *jesli* 'if' to introduce reported questions (e.g., *She asked me if…*). In baseline Russian, *jesli* is never used in this function; instead, yes-no questions, including reported yes-no questions, are formed with a clitic *li*, which follows the focused element in the question. While *li* is optional in the matrix clauses, it is obligatory in subordinate clauses in Russian (see Schwabe, 2004: 385 and references therein).

(11) Mama menja sprosila **jesli** ja xochu popit' moloko.
Mama.NOM me.ACC asked.PFV if I want.IMP drink.PFV milk.ACC
'Mom asked me if I wanted to have some milk' (cf. RR. 'sprosila xochu li ja…')

(12) My ne znajem **jesli** my xoteli tam pokushat'
we NEG know.IMP if we wanted.IMP there eat.PFV.INF
'We don't know if we wanted to eat there'

In addition to the use of *jesli* instead of *li*, the subordinate clauses in the sentences above exhibit word order different from that in the baseline. In Russian, the focused element, i.e. the verb *want* in both examples, would move to the front of the clause, producing the VS word order pattern. In contrast, just like with *if*-clauses in English, no changes from the default SV order occur in heritage Russian with *jesli* introducing the reported question in (11) and (12).

Overall, although the CLI hypothesis has received considerable empirical support, it has not been shown to apply uniformly to all domains of language change in the context of heritage language acquisition. Not all structural changes under attrition appear to result in a reduced L1 becoming more like L2; in fact, L1 and L2 similarity and existence of equivalent forms in competition (for example, *if* and *jesli* as discussed above) was found to be one of the crucial conditions for transfer in the first place (Seliger, 1991; Alternberg, 1991; Saville-Troike, Pan, and Dutkova, 1995; Gürel, 2008). In a study of the tense-aspect-mood system in Los Angeles Spanish, Silva-Corvalán (1991: 166) finds that the linguistic changes in the variety under consideration are not a result of a direct cross-linguistic transfer and that there is no evidence that contact with a language typologically different from English would have triggered different changes in the heritage language. Maher (1991: 80) provides empirical data from a variety of Indo-European and non-Indo-European enclave languages with different contact languages to argue that the general principles of language restructuring in the context of intergenerational loss "cannot be explained wholly in terms of borrowing or interference." The idea that linguistic changes in a language-contact situation may occur as a result of reduction of exposure and use of the language, rather than literally the language contact itself (e.g., Maher, 1991; Silva-Corvalán, 1991), finds further support in the fact that some language attrition effects have been documented in situations of extreme isolation from language contact altogether, such as in arctic explorers (Major, 1992: 190 and references therein).

As Köpke and Schmid (2004) point out in their introductory discussion to the volume of *Studies in Bilingualism* dedicated specifically to language attrition, L2 transfer

is generally no longer viewed as determining the process of L1 attrition all by itself. Instead, work is needed to determine specifically "in which cases the CLI hypothesis applies to attrition, and in which cases it does not" and whether "specific linguistic domains of L1 … are more susceptible to influence by the L2 than others" (Köpke and Schmid, 2004: 12). The proposal that L2 influence differentially affects some aspects of the L1 system is discussed in Saville-Troike, Pan, and Dutkova (1995): based on child production data from L1 speakers of Chinese, Czech, Navajo, and Russian in contact with English as a dominant L2, the authors find that L2 influence on L1 is particularly observable in those aspects of the L1 grammar that are less consistent or uniform (i.e., predictable in occurrence), suggesting that "non-uniform aspects of L1 grammar may remain permeable to L2 counter-evidence (positive evidence or indirect negative evidence)" (p. 147).

### 1.2.5 Universal Principles

The limitations of the CLI hypothesis, as well as empirical studies that failed to detect any significant influence of the L2 in some aspects of heritage language acquisition, led some scholars to search for alternatives, one of them being the idea that grammatical restructuring might be governed from within, by autonomous processes rooted in the internal structure of the language undergoing changes or in the Universal Grammar. For example, Montrul (2004) alludes to "potential universal mechanisms that are not related to the influence of the other language and that are common in language acquisition and diachronic change (mechanisms that are part of the Universal Grammar would fall in this category)" (p. 260). It has been suggested in other studies that "language change – albeit observed in language contact settings – is *language internal*"

(Köpke and Schmid, 2004: 11), and the linguistic modifications in these contexts are "motivated by universal principles" or "related to some fact in the particular grammar of L1" (Seliger and Vago, 1991: 10). As a result, permeability to cross-linguistic influence is constrained "by cognitive factors which underline possible and preferred linguistic systems as attested in natural languages" (Silva-Corvalán, 1991: 167).

Markedness has been argued to play a significant role in guiding the autonomous processes in the context of language disuse: for example, Seliger (1996) proposes a Redundancy Reduction Principle for language attrition, according to which linguistic structures that are more marked are more likely to be lost or undergo changes than structures that are less marked (where markedness is defined by structural complexity and restricted distribution). Silva-Corvalán (1991: 165) argues that the theory of markedness proposed to account for order of appearance of tense, aspect, and mood categories in creole languages is a valid predictor of order of disappearance of these categories in intergenerational language loss.

Seliger and Vago (1991: 12) describe L1 attrition as a "natural continuation of a general language acquisition or learning strategy in which some rules are transferred between the existing grammar available to the speaker, while others appear to derive from innate or universal principles of language acquisition." The role of universal principles in language loss and the importance of cognitive factors, reflected in universal grammar, is further discussed in Silva-Corvalán (1991: 164), who draws a direct parallel between language attrition and the phenomenon of creolization: "language loss is to a large extent the mirror image of development in creolization." The role of markedness as well as more general (arguably innate) universal principles of language development in

situations of language acquisition under reduced input has for a long been at the forefront of studies on atypical language transmission. For example, in his work on the development of creole languages, Bickerton (1999: 49) writes, “if we want to learn anything about the innate component and how it determines acquisition, we need to look for situations in which the normal transmission of well-formed language data from one generation to the next is most drastically disrupted.” Heritage language acquisition, which takes place in the absence of consistent input, is unquestionably one such situation, and a growing body of literature on HLA continues to supplement existent research on universal properties of language and deepen our insights into the nature of the human language faculty.

### 1.3 Dissertation Goals and Structure

In terms of methodology, previous research on aspect in heritage Russian has been focused first and foremost on errors, or explicit deviations from the standard norms. By and large, generalizations are aimed at accounting for errors in production, which are evaluated against dictionaries or native speaker judgments, rather against a set of data form a control group of baseline speakers. This approach essentially represents what Klein (1998: 535) refers to as ‘a target deviation perspective’ in language research. Much research in second language acquisition (SLA) research has been conducted from this perspective, expressed most straightforwardly in error analysis: a learner’s performance is examined in comparison to a set of rules taken to represent the target language, viewed as “a clearly fixed entity.” As a result, “a learner’s performance in production and comprehension is studied not so much in its own right, as a manifestation of the learner’s capacity, but in relation to a set norm; not in terms of what learners do but in terms of

what they fail to do" (Klein, 1998: 535). However, as noted in Purdue (1993: 13), there is no straightforward relationship between learner varieties and the target language grammar: if the learner grammar is systematic, "it follows that the words and constructions which form this systematicity cannot be put into one-to-one correspondence with the 'equivalent' words or constructions of a different system, the TL [target language] system." Consider, for instance, the following utterance, produced by a learner of German as an instruction to a target language speaker to put an ashtray into a bag (from Purdue, 1993: 9):

(13) aschenbeher tasche
ashtray bag

One possible way to analyze this utterance from the target deviation perspective is to say that it is an equivalent of a corresponding sentence in the target language, such as 'You put the ashtray into the bag,' and hence analyze it as containing some missing elements (e.g., an "implicit" or "deleted" verb *put*). According to Purdue (1993), "the nearer a learner's production appears to be to the TL, the more tempting it becomes to imagine a 'corresponding' TL version and use the analytic categories relevant to the latter version to analyse the former," giving rise to a "closeness fallacy" (p. 13).

As an illustration of this approach in existing work on heritage Russian aspect, consider the following example (from Pereltsvaig, 2002):

(14) a. *Immigrant Russian*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| … i | **budu nosit'** | korotkie volosy i | | ja | **budu** | **s** | **galstuk** |
| and will | wear.IMP | short | hair and | I | will-be | with | tie |

‘I will <u>wear short hair</u> and will <u>be with a tie’</u>

b. *CSR (Contemporary Standard Russian)*

… ja **podstrigus’** i **nadenu** **galstuk**

I will-get-haircut.REFL and will-put-on tie

‘I will <u>get a haircut</u> and will <u>put on a tie</u>’

The hypothetical target version of the sentence in (14) (a) is given in (14) (b), where imperfective aspectual forms of predicates used by a heritage speaker are replaced with perfective forms of different predicates. The analysis maintains that the speaker uses stative verbs *nosit’* ‘wear’ and *byt’* ‘be’, in place of the perfective forms *podstrichsja* ‘get a haircut’ and *nadet’* ‘put on,’ respectively, to denote the result states of his actions (Pereltsvaig, 2002). The example is interpreted as evidence for a preference for stative over non-stative predicates in the expression of results in heritage Russian. However, note that the resultative reading is only salient for the perfective predicates used in the corrected “target” version, which does in fact describe the result of speaker’s actions (e.g., *get a haircut*); the resultative readings do not appear to be equally salient or perhaps even available in the original sentence, which describes the speaker’s appearance during the interview (e.g., *wear short hair*).

An alternative to the target deviation perspective, ‘a learner variety perspective,’ assumes that “[l]earner varieties are not imperfect limitations of a ‘real language’ – the target language – but systems in their own right, error-free by definition” (Klein, 1998: 538). Under this approach, the inherent systematicity of the linguistic variety as a whole, rather than deviations from a pre-established norm, is of primary importance. Because the closeness fallacy “leads inevitably to false dichotomies such as ‘error/non-error’”

(Purdue, 1993: 13), attempts have been made to capture and analyze the systematicity of the variety in its own right, with a focus on how the system functions. In Klein's view, the target deviation approach, while supplying important information "about the learner's problems, their causes and how they can be avoided," can miss important clues about the more general principles of development of the emerging linguistic variety and thus will not "yield substantial information about the nature of the human language faculty itself," because all learner varieties – very elementary and very advanced – are manifestation of the human language capacity. In fact, what we see as 'normal' languages may in fact be viewed just as a special case of this capacity, "defined on social and normative rather than on structural grounds" (Klein, 1998: 538-539).

Language acquisition studies that focus exclusively on deviations from a set standard norm, including work on HLA conducted from this perspective, run a danger of overlooking a wealth of data potentially bearing on what the human language faculty can do, and does do, in situations of limited or interrupted input to produce linguistic varieties that diverge from the input grammar in some areas while converging with it in others. Theories that are capable of accounting for areas of divergence between two linguistic systems, as well as for the areas in which they converge, will likely have a better explanatory power than those focused on errors alone, ultimately bringing us closer to the understanding of the overall makeup of the species-specific capacity to learn and process language.

In shifting the scope of attention from errors to the overall patterns of language use, this dissertation introduces a distinction between *overt* and *covert* restructuring in the context of intergenerational language loss. Much of the existing work on heritage Russian

has so far been focused first and foremost on what I label here as overt restructuring – a grammatical reorganization manifested in 'errors', overt deviations from the standard norm, from the point of view of competent educated speakers. This could be due to the nature of the elicitation techniques employed most commonly in early work on HLA: methodologically, the fundamental groundwork on heritage Russian was based on the analysis of transcripts of spontaneous or semi-spontaneous production (interviews, story-telling), rather than controlled experimental tasks, making it rather difficult to draw quantitative conclusions about the restructuring phenomena not manifested in mistakes in a strict sense. Yet, because absence of evidence is not evidence of absence, lack of errors in production may not be a guarantee of full convergence with the baseline. Gradual reorganization of a grammatical system may in principle be reflected in subtle (but measurable) shifts that nevertheless do not lead to mistakes, such as emergence of unique rule-like preferences not attested in baseline varieties or selective restriction in the range of grammatical options available to speakers. The latter phenomena represent what I refer to as covert restructuring of a linguistic system. The term 'covert' in this sense refers to a type of systematic grammatical reorganization that may not be immediately detectable in spontaneous production (particularly with high proficiency speakers), as it does not result in incorrect forms, or errors, but one that may nevertheless distinguish a heritage grammar from the grammar of the corresponding baseline variety in principled and systematic ways.

Covert differences may exist, for example, if a subset-superset relationship obtains between two grammars. If the baseline grammar has two strategies to express a particular phenomenon, and only one of the two options is available to heritage speakers,

then the two grammars are certainly not identical with respect to their structural properties. However, these differences may not be apparent through production errors, as speakers of the more restricted grammar will appear target-like in their use of the particular option that they have maintained. Thus, a study of covert restructuring inevitably involves evaluation of particular linguistic forms relative to contexts in which they do and do not occur, along with a careful comparison of patterns observed in the data from heritage speakers with those attested in the baseline variety.

Up until now, aspectual marking in heritage Russian has not been examined for patterns of covert restructuring or with reference to particular discourse-pragmatic contexts. The main emphasis has so far been placed on incorrect, from the point of view of full native speaker, use of aspect markers by low-proficiency heritage speakers, as well as on occurrence of aspectual morphology in relation to semantic properties of individual verbal roots, without reference to phrasal or larger sentential contexts (a review of previous research is provided in Section 3.3.3). A similar approach has for a long time dominated research on L1 and L2 acquisition of aspect (Section 3.3), focused narrowly on verbal lexical aspect in the acquisition of temporality markers cross-linguistically (see Sharma and Deo, 2009 for a recent criticism of this approach). Existing studies on the interaction between aspect and telicity in heritage Russian take telicity to be a lexical notion, rather than a structurally determined phenomenon. As a result, a large class of predicates (specifically, predicates whose telicity values have been shown to be calculated syntactically at the level of the verbal phrase, rather than lexically specified at the level of the verbal root) have been left out of the scope of investigation (Section 4.1).

In this work, I present experimental evidence from advanced heritage speakers of Russian to suggest that the interaction between viewpoint aspect and telicity in a HLA context may extend beyond the verb, and that systematic aspectual variation can be observed at the level of the verb phrase, where heritage speakers of high proficiency levels are found to largely converge with competent baseline speakers (Chapter 4). The aspectual system is further examined at the sentence level and in relation to larger discourse-pragmatic factors, where significant quantitative differences between the two systems are detected (Chapter 5). On the basis of data obtained via three experimental tasks (production, interpretation, and acceptability judgments), I propose a unified account of similarities and differences between the aspectual systems in the two varieties of Russian. I argue that the privative aspectual opposition of baseline Russian undergoes a process of restructuring into an equipollent opposition by way of reduction and loss of the general-factual functions of the imperfective, mediated at the interface between syntax and discourse-pragmatics, also known as the C-domain (Platzack, 2001).

I further maintain that while the group of monolingual Russian speakers, with which heritage speakers are traditionally compared, can be invaluable in juxtaposing the structural properties of the two varieties, we learn little from this comparison about possible causes for any observed differences. Heritage speakers are not in direct contact with the monolingual speakers and are not exposed to the same linguistic input. Instead, their linguistic input comes from their parents and other members of the larger Émigré community. As a result, the linguistic variety of Russian to which they are exposed may be *a priori* different from the standard variety, making any comparisons between the heritage and standard grammars devoid of explanatory power with respect to the

questions bearing on the mechanisms of linguistic development in heritage language acquisition. To fill this gap in existing studies on heritage Russian, I bring in additional empirical data from a group that consists of bilingual Russian-English speakers residing in the US, including parents of heritage speakers and people who have a similar sociolinguistic profile. These speakers are taken to represent the type of linguistic input that is available to heritage learners in the acquisition process. Comparisons with these data are the crucial missing link in understanding the input properties in HLA and what role these properties may play in aspectual restructuring.

The experimental data presented in the dissertation further offers theoretical implications for the study of Russian aspect. Despite a rich body of literature on the subject, the treatment of aspect in Russian has remained controversial (Chapter 3). The huge body of theoretical work on Russian aspect continues to co-exist with a relatively small number of empirical studies to bear on these claims. Data from the control group of native competent speakers of Russian provides additional insights into the nature of the Russian aspectual opposition and makes it possible to test the proposals put forward in the theoretical literature. For example, Experiment 1 discussed in Section 4.3.1 yields additional empirical support to the idea (developed theoretically by, e.g., Verkuyl) that Russian aspect is not exclusively a verbal matter, as had been traditionally assumed, but should be analyzed at the level of the verbal phrase. Similarly, experiments 2 and 3 in Section 5.2 provide quantitative data (interpretations and acceptability ratings) from native speakers to support descriptive generalizations made by, e.g., Forsyth (1970) and Rassudova (1984) about the use of the imperfective under certain discourse-pragmatic conditions in Russian.

The dissertation is structured as follows. Chapter 2 is dedicated to the study of overt restructuring in the grammatical system of heritage Russian. Here, I follow the traditional approach in HLA in focusing on systematic overt grammatical reorganization processes taking place in the context of intergenerational language loss, including the restructuring of case and gender systems, loss of agreement, and a detailed overview of other phenomena manifested in overt deviations from the monolingual standard in production.

All remaining chapters of the dissertation pertain to the restructuring of the aspectual system. In Chapter 3, aspect is investigated at the level of the verb: following an overview of the relevant theoretical literature, I review existing studies on aspect in heritage Russian, which examine aspect as a verbal matter. Chapter 4 addresses aspectual phenomena at the level of the verbal phrase. Here, I present empirical evidence to suggest that systematic aspectual variation in heritage Russian extends beyond individual verbs and into larger linguistic units, such as the VP. Chapter 5 is dedicated to sentential aspect, with a focus on the discourse-pragmatic functions of the Russian imperfective. Evidence from two additional experiments yields a model of aspectual restructuring in acrolectal varieties of heritage Russian. Chapter 6 investigates the role of the linguistic input in HLA: additional evidence from bilingual Russian-English speakers, including parents of heritage speakers, is presented to examine the use, acceptability ratings, and interpretations of aspectual forms in the linguistic varieties that form and feed linguistic representations emerging in the context of intergenerational language loss.

# Chapter 2 Heritage Russian Grammar at a Glance: Overt Restructuring

Following traditions established in previous research on heritage grammars, focused primarily if not exclusively on overt deviations between the heritage grammar and the corresponding full language (or, simply put, errors), this chapter addresses overt grammatical deviations observed in the present data. However, it should be kept in mind (and this is the main underlying assumption of this work) that errors represent only a narrow set of properties of a heritage grammar, and that absence of errors cannot in and of itself be taken as an indication of full convergence between the heritage and baseline grammars. The remaining chapters of the dissertation will focus on the less obvious aspects of restructuring in the context of HLA, those which are not manifested in overt grammatical errors and, as a consequence, have not received systematic attention in existing research on heritage Russian.

Unless noted otherwise, all examples in this chapter, as well as throughout the dissertation, come from a corpus of original data collected from 75 speakers, including 23 heritage speakers of Russian, 20 bilingual Russian-English speakers, and 32 native speakers of Russian residing in Russia (the former two groups were tested in the US, their current place of residence). Detailed demographic information about the participants is presented in the relevant sections of the dissertation, dedicated to the discussion of experimental results. The corpus includes data from three experimental tasks: a controlled production task of sentence construction (Section 4.3.1), an acceptability judgment test

(Section 5.2.2), and a forced choice task aimed at measuring the interpretation of aspectual forms (Section 5.2.3). Three groups of speakers participated in each task. In this chapter, aimed at capturing the signs of overt restructuring in the overall grammatical system of heritage Russian, our scope is restricted to the production data collected from heritage speakers.

The production experiment, which provides examples discussed in this chapter, is described in detail in Section 4.3.1.1 below. In a nutshell, the speakers were presented with twenty predicates in English, including a verb and a direct object, and asked to construct original Russian sentences out of this linguistic material. In the heritage group, 23 speakers participated in the sentence construction experiment, although 9 of these people made no overt grammatical errors in production, while remaining speakers made only a small number of errors. In order to present a more comprehensive picture of grammatical shifts in heritage Russian, the sentence construction data from the main corpus is supplemented with examples gathered through fieldwork with heritage speakers of Russian in Minneapolis, MN and adjacent communities (Laleko, 2007). Several types of data have been obtained through fieldwork: naturalistic production in the form of sociolinguistic interviews and free conversation on various topics (e.g., books and movies, current events, hobbies, education, family, holidays, cultural traditions), about 30-60 minutes per person; semi-controlled production in the form of story-retelling ("Goldilocks and the Three Bears").

## 2.1 Gender

The restructuring of the gender system in heritage Russian has received considerable attention in previous studies, most notably Polinsky (1996, 2008), who

showed that there are systematic differences in gender assignment between heritage Russian and the baseline variety. Baseline Russian has three grammatical genders, Masculine, Feminine, and Neuter. Gender assignment depends on the declension type of the noun: in the Nominative case, Feminine nouns usually end in *-a* or a palatalized consonant; Neuter nouns end in *-o, -e*; and Masculine nouns typically end in a non-palatalized consonant[6]. Nouns agree in gender with singular adjectives, possessive pronouns, and modifying numerals, as well as with verbs in the past tense.

On the basis of experimental data, Polinsky (2008) suggests that the gender system is undergoing reanalysis in heritage Russian. For high-proficiency speakers, the three-way gender system is overall retained; however, gender assignment is done based on the phonological form of the noun, rather than its declension type. In this system, nouns ending in a consonant are treated as Masculine, nouns ending in a stressed *-o* are Neuter, and all remaining nouns are Feminine. For low-proficiency speakers, the gender system becomes a considerably simplified two-gender Masculine-Feminine opposition, where nouns ending in a consonant are Masculine and those ending in a vowel are Feminine.

In this simplified system, gender agreement is done based on a purely formal criterion of phonological form, regardless of the actual grammatical gender. According to Polinsky (2008), the relevant phonological form is the citation form of the noun, which corresponds to the Nominative case. In example (15) below, the Nominative subject *papa* 'dad' triggers a Feminine agreement marker on the verb because of the *-a* ending. However, other examples in the production corpus suggest that forms other than the

[6] There is a small class of Masculine nouns that end in *–a*, for example *djadja* 'uncle,' *papa* 'dad.'

Nominative may also serve as triggers for the new phonological gender assignment strategy. In example (16), the Genitive form of the Neuter noun ‘letter’ (*pismo*.NOM – *pisma*.GEN) has a stressed ending *-a*, which is phonologically equivalent to the ending of Feminine nouns in the Nominative case. Because nouns ending in *-a* are categorized as Feminine, the heritage speaker uses the Feminine form of the numeral ‘one’ *odna*, rather than the Neuter form *odno*. Example (17), from a different speaker, independently points to the same strategy with the same noun: once again, the Genitive form of the Neuter noun ‘letter’ ends in *-a*, which likely explains the occurrence of the Feminine *odnu*.ACC ‘one’ (note also some hesitation and uncertainty accompanying the use of this form: the speaker originally tries the Masculine form but then pauses and changes it to the Feminine form).

(15) Papa vchera **pokupala** tri mashiny.
dad.MSC yesterday bought.FEM.IMP three cars.GEN
‘Dad was buying three cars yesterday’

(16) _ napisala dva pis’ma, **odna** idet v
wrote.FEM.PFV two letters.NEU.GEN one.FEM go.3.SG in
Ukrainu, a **drugaja** v Rossiju.
Ukraine.ACC and another.FEM in Russia.ACC
‘(I/she) wrote two letters: one is going to the Ukraine, and the other one to Russia’

(17) Mne nuzhno dva pisma napisat’ **odin** mame…
I.DAT need two letters.ACC write.PFV.INF one.MSC.ACC mom.DAT

**odnu** mame i **odnu** moei sestre.

one.FEM.ACC mom.DAT and one.FEM.ACC my.DAT sister.DAT

'I need to write two letters: one to my mom and one to my sister'

While a relatively consistent pattern of phonological gender assignment emerges in controlled experiments, Polinsky (2008: 28) notes that the same "gender categorization is not immediately apparent in the production data, where many agreement 'errors' or mismatches may be due to on-line difficulties typically experienced by heritage speakers." This is evidenced by multiple seemingly spontaneous gender agreement errors in production not attributable to the phonological principle of gender assignment. The present corpus also contains examples of such unexpected mismatches in gender agreement. Consider, for instance, the following examples:

(18) **moego** **mamina** dvojurodnyj brat

my.MSC mom.FEM second.MSC brother.MSC

'My mother's [male] cousin'

(19) ja i moj brat i **moj** **dvojurodnyj** **sestra**

me and my.MSC brother.MSC and my.MSC second.MSC sister.FEM

'Me, and my brother, and my [female] cousin'

(20) Rebenok xotel chto mama pela **odin**

child.NOM wanted.IMP that mom.NOM sang.IMP one.NOM.MSC

**pesnju**.

song.ACC.FEM

'A/the child wanted mom to sing one song'

In all such non-phonologically-governed instances of gender mismatches between a noun and a modifier, Feminine nouns are modified by Masculine adjectives. Examples illustrating alternative strategies (i.e., Feminine or Neuter modifiers used with Masculine nouns, except when phonological triggers, such as an end vowel, are present) are not attested in the present corpus. It is possible that the Masculine may be emerging as a default unmarked form for modifiers (cf. the apparent hesitation in example (17) above, where the speakers starts with a Masculine adjective before changing it to Neuter).

## 2.2 Case

The loss and/or reorganization of the case system in some varieties of heritage Russian is another process illustrating overt restructuring in the context of heritage language acquisition. The existence of a rich morphological case paradigm makes Russian a good candidate for studies of overt structural reorganization of the case system under attrition and incomplete acquisition. Russian has six morphological cases: Nominative, Accusative, Dative, Genitive, Instrumental, and Prepositional (sometimes also referred to as Locative). Three cases out of the six are most typically used for the encoding of verbal arguments: subjects in Russian appear in the Nominative case, the Accusative typically marks direct objects, and indirect objects are commonly marked by the Dative.

In accounting for systematic overt deviations from the baseline in the encoding of verbal arguments in the production data from heritage speakers, Polinsky (1997: 380) proposes an argument case shift rule, according to which the three-case system commonly used for the encoding of verbal arguments in the baseline (Nominative, Accusative, and Dative) is reorganized into a two-case system (Nominative and

Accusative) in heritage Russian. This restructuring leads to the disappearance of the Dative case as a marker of indirect objects, which are instead marked by the Accusative, and to the loss of formal distinctions between the verb's external and internal arguments, which are both marked by the Nominative case. Additionally, Polinsky (1997) observes the loss of prepositional obliques, such that the Prepositional case (typically assigned by prepositions) is replaced with the 'default' Nominative case.

The restructuring of the Russian case system in the context of heritage language acquisition has subsequently been addressed in Isurin and Ivanova-Sullivan (2008), who used a book of pictures in a controlled story-telling task in order to elicit unrehearsed narration data from heritage speakers. Contrary to Polinsky's (1997) generalizations, the authors report no systematic occurrences of the Accusative with indirect objects, and the use of the Nominative case with prepositions is also not attested in the heritage speakers' narratives: "[w]e indeed found some instances in which the participants used one oblique case instead of another, but by no means generalizing the accusative as the only case for indirect objects. Second, we never found nominative case occurring after prepositions" (Isurin and Ivanova-Sullivan, 2008).

The present corpus provides only one example of the Dative-to-Accusative shift. In (21) below, *him* is the indirect object of the verb *give*, but it is used in the Accusative case instead of the Dative. Note also that the direct object *shans* 'chance' surfaces in the form that is ambiguous between the Accusative and Nominative. If the form is analyzed as the Nominative, the example is fully consistent with Polinsky's argument shift rule. The rule finds additional partial support in examples such as (26) below, where the direct object receives the same case marking as the subject (illustrating the Accusative-to-

Nominative shift). However, absence of additional examples of Dative-to-Accusative shift in the corpus, coupled with previous studies which did not observe consistent Accusative case marking on indirect objects in heritage Russian, raises a question of whether the argument case shift rule in its full-fledged form may operate in a systematic way only in certain varieties of heritage Russian (e.g., basilectal varieties at the lower end of the proficiency continuum).

(21) DAT > ACC

| | | |
|---|---|---|
| dali | e**go** | shans |
| gave.3.PL.PFV | him.ACC | chance.ACC/NOM |

'[They] gave him a chance' (cf. RR:'emu.DAT')

However, the present corpus does provide support for the claim that the Nominative case can be overextended to a variety of contexts in heritage Russian, including contexts involving nouns after prepositions (cf. examples in Polinsky, 1997), where the Nominative case never occurs in baseline Russian. Examples below illustrate the occurrence of the Nominative in place of all remaining cases.

(22) PREP > NOM

| | | | | | | |
|---|---|---|---|---|---|---|
| Ja | chitaju | knizhki | pro | **Vojna** | **i** | **Mir**. |
| I | read.IMP | books.ACC | about | war.NOM | and | peace.NOM |

'I read books about *War and Peace'*

(23) DAT > NOM

Subbotu ja **papa** pomogaju pokrasit' dom.

Saturday.ACC I dad.NOM help.IMP paint.PFV.INF house.ACC

'Saturday I'm helping my dad to paint the house'

(24) DAT > NOM

**Mama** nuzhno pomoch gotovit' torty

mom.NOM need help.PFV.INF prepare.IMP.INF cakes.ACC

'Mom needs help with baking cakes'

(25) INS > NOM

Ja s **babushka** s **dedushka** govorju po russkom

I with granny.NOM with grandpa.NOM speak.IMP in Russian

'I speak Russian with my grandparents' (cf. RR: 's babushkoi.PREP', 's dedushkoi.PREP)

(26) ACC > NOM

Ja nikogda ne chitala ***Voina*** ***i*** ***Mir***.

I never NEG read.IMP war.NOM and peace.NOM

"I have never read *War and Peace'*

(27) GEN > NOM

Kazhdyj god ja chitaju **devjut'** **knigi**.

every year I read.IMP nine books. PL.NOM

'Every year I read nine books'

The use of the Nominative case instead of the Genitive with numerals and measure expressions (this type of Genitive case marking is known as the Genitive of measure in the Slavic linguistic tradition) is particularly frequent in the production corpus. This strategy is illustrated in examples (28)-(31) below.

(28) Napishi mene **dva** **pismo** kogda ja uedu[7].
write.IMPR_ me.DAT two letter.SG.NOM when I leave.PFV.FUT
'Write me two letters when I leave'

(29) Kogda ja prishla domoj ja vypila **stakan** **moloko**.
when I came.PFV home I drank.PFV glass.ACC milk.NOM
'When I came home, I drank a glass of milk'

(30) Na moe den' rozhdenie ja vypila **chashku** **vino**.
on my.NET day birth.NOM I drank.PFV cup.ACC wine.NOM
'For my birthday I had a cup of wine'

(31) Davaj vypjem **stakan** **vino** segodnja vecherom.
let's drink.PFV.FUT glass.NOM wine.NOM today evening.INS
'Let's drink a glass of wine tonight'

In addition to the Nominative, Prepositional case marking is also attested instead of the Genitive of measure, e.g. in (32):

[7] Note that the noun *pismo* 'letter' is used in the Nominative singular form despite an overt numeral 'two' in front of it. This use of the noun in the singular form is consistent with the requirements of baseline Russian, according to which only noun phrases with numerals higher than 'five' require plural Genitive marking. Thus, the problem is with case marking and not with number.

(32) Ja sovershau mnogo **oshibkax**.
I.NOM commit.IMP many mistakes.PREP
'I make many mistakes' (cf. RR 'mnogo oshibok.GEN')

Apart from case assignment, case agreement appears to present a set of challenges for heritage speakers. Russian exhibits case agreement, whereby the case endings appear not only on nouns but also on other elements within the nominal complex: adjectives (both singular and plural), modifying numerals, and possessive pronouns. However, the present data suggests that some restructuring is taking place in the agreement system. Phrases in examples below exhibit partial agreement: only one element of the phrase carries the required case morphology, while another element remains in the 'default' Nominative case. In (33), only the head noun carries the Accusative case morphology, while the modifying numeral remains unmarked; the opposite strategy is shown in (34), where the adjective carries the expected Accusative morphology while the head noun surfaces in the Nominative; finally, the coordinated noun phrase 'brothers and sisters' in (35) contains one noun in the Genitive form while the other noun remains in the Nominative. Both nouns would occur in the Genitive in the baseline variety.

(33) proshel **pervaja** **polovinu** pervogo klassa
spent.PFV first.NOM half.ACC first.GEN grade.GEN
'spent the first half of the first grade'

(34) Dedushka delal **ogromnaju** **oshibka** kogda on
grandpa made.IMP huge.ACC mistake.NOM when he.NOM

stiral svoi rubashki.

washed.IMP his.ACC shirts.ACC

'Grandpa was making a big mistake when he was washing his shirts'

(35) Skoljko u tebja byl **bratja** i **sestjor**?

how many at you was.MSC.SG brothers.NOM and sisters.GEN

'How many brothers and sisters did you have?'

In all likelihood, difficulties with case agreement are not idiosyncratic instances but are likely representative of an overall tendency towards the loss of agreement in the context of heritage language acquisition. Polinsky (1997: 382) discusses attrition of agreement in heritage Russian as a more general and systematic process, related to the disappearance of declension and conjugation paradigms and affecting the linguistic system as a whole: "[t]he loss of agreement does not seem to distinguish between agreement in gender, number or person." In line with this generalization, other instances of agreement mismatches are attested in the corpus. The following section addresses number agreement.

### 2.3 Number Agreement

Although relatively few instances of overt deviations from the baseline with respect to number agreement have been observed in the present corpus, these instances are suggestive of a possibly novel pattern in subject-verb agreement emerging in heritage Russian and warrant a closer examination in future studies. The pattern concerns the behavior of complex subjects that consist of two (or possibly more) coordinated phrases, such as *me and my mother*, *me and my husband*, and *my younger brother and his friends*

in examples (36)-(37) below. Coordinated subjects indisputably trigger plural agreement morphology on the verb in baseline Russian; however, heritage speakers, while adhering to the same general rule in the majority of cases, occasionally allow for singular marking on the verbal predicate. Analysis of gender and number morphology on the verbs in the examples below further suggests that in all non-target-like examples of subject-verb agreement, all deviations from the baseline share a common characteristic: only the first conjunct in the complex subject (rather than the subject in its entirety or the second conjunct) enters into an agreement relationship with the predicate. I will refer to this phenomenon as partial agreement. Examples below illustrate partial subject-verb agreement in the present corpus:

(36) Vchera ja i moj muzh poshli
yesterday I.NOM and my.MASC husband.NOM went.PFV.PL
v kino i **kushala** popcorn.
in cinema.ACC and ate.FEM.IMP.SG popcorn.ACC
'Yesterday my husband and I went to the movies and ate popcorn'

(37) Moj mladshij brat i ego druzja
my.NOM younger.NOM brother.NOM and his.NOM friends.NOM
**lubit** pet' pesni na ixnee svobodnoe vremja.
love.IMP.SG sing.IMP.INF songs.ACC on their.ACC free.ACC time.ACC
'My younger brother and his friends like to sing songs in their spare time'

(38) Vchera kinoteatr **ja i mama kushala** popcorn.
yesterday movie theater I.NOM and mom.NOM ate.FEM.SG.IMP popcorn.
'Yesterday in the movie theater my mom and I ate popcorn'

The verb *kushala* 'ate' in example (36), from a female speaker, is in the singular Feminine form despite the presence of a coordinated subject *ja i moj muzh* 'me and my husband,' which would trigger plural marking on the verb in baseline Russian. Because the verb is in the singular form, only one conjunct in the subject complex appears to stand in the agreement relationship with it. The second conjunct in the subject position, *moj muzh* 'my husband,' contains a Masculine noun, while does not match the Feminine ending on the verb *kushala* 'ate.' This indicates that the agreement relationship must hold between the verb and the first conjunct. Note also that the predicate itself consists of two coordinated verb phrases, and that the verb *poshli* 'went' in the first conjunct is marked for plural in a targetlike way, suggesting that even despite some cases of nontargetlike agreement marking attested in the data, the overall system of agreement is not entirely lost for these speakers. Example (37) provides another instance of first-conjunct agreement, whereby the singular verb *lubit* 'loves' agrees with the first conjunct *moj mladshij brat* 'my younger brother' in the coordinated subject *moj mladshij brat i ego druzja* 'my younger brother and his friends.' The second conjunct, *ego druzja* 'his friends' contains a plural noun, suggesting that it cannot be the relevant element for subject-verb agreement (otherwise, we would expect the plural marking on the verb). Finally, (38), also from a female speaker, illustrates the use of a singular Feminine form *kushala* 'ate' despite the presence of two conjoined phrases in the subject position, *ja i mama* 'me and mom'.

From a cross-linguistic perspective, partial subject-verb agreement is not a novel phenomenon: optional first-conjunct agreement has been attested in Arabic, Czech, Hindi, Finnish, Spanish, as well as in so-called "there" constructions in English (e.g., "There is a bed and a sofa in the room"). However, in these languages, first-conjunct agreement is largely limited to a VS word order, i.e. the singular verbs precede, rather than follow, conjoined subjects. First-conjunct agreement with an SV word order, where the conjunct in the agreement relationship with the verb is furthest from the verb, is considered rare (Lorimor, 2007 and references therein).

In the absence of additional examples of partial agreement in the corpus, it is difficult to draw further parallels between first-conjunct agreement cross-linguistically and the trend that appears to emerge in examples (36)-(38) in heritage Russian. However, one additional observation is in order. Apart from conjunctive coordination (i.e., coordination with a conjunction such as *i* 'and'), Russian has a special type of coordination known as comitative coordination, in which two animate conjuncts are connected with a comitative marker *s* 'with.' In conjunctive coordination, both conjuncts are used in the Nominative case and the verb appears in the plural form. In the case of comitative coordination, the first conjunct is in the Nominative case, the second conjunct is in the Instrumental case assigned by the comitative marker, and the verb is also marked as plural. Sentences in (39) below illustrate both types of coordination, conjunctive (39) (a) and comitative (39) (b):

| | | | | | | |
|---|---|---|---|---|---|---|
| (39) | a. | Masha | i | Natasha | poshli | guljat.' |
| | | Masha.NOM | and | Natasha.NOM | went.PL | walk.INF.IMP |
| | | 'Masha and Natasha went for a walk' | | | | |

b. Masha s Natashej poshli guljat.’
Masha.NOM with Natasha.INS went.PL walk.INF.IMP
‘Masha and Natasha went for a walk’

In addition to the so-called ‘true’ comitative coordination illustrated in (39) (b), the comitative marker *s* ‘with’ can be used with the noun phrase to form an adjunct constituent. Comitative adjuncts are traditionally distinguished from comitative conjuncts based on a number of syntactic and semantic criteria (Feldman, 2002 and references therein). Crucially, unlike comitative conjuncts, comitative adjuncts in the subject position do not trigger plural marking on the verb, which remains in the singular form:

(40) Masha s podrugoj poshla k vrachu.
Masha.NOM with friend.INS went.SG.FEM to doctor.DAT
‘Masha went to the doctor’s with her friend’

The singular verb *poshla* ‘went’ in (40) above is appropriate because the verb stands in the agreement relationship only with the singular Nominative subject *Masha* and not with the comitative adjunct *s podrugoj* ‘with a friend.’ Non-coordinated constructions of the type illustrated in (40) can be thought of as ‘pseudo-coordinated’ due to their similarities with ‘true’ comitative coordination. Compare, for instance, sentences in (41) (a) and (41) (b):

(41) a. Mama s papoj priexali.
mom.NOM with dad.INS arrived.PL
‘Mom and dad arrived’

b. Mama s papoj priexala.
mom.NOM with dad.INS arrived.SG.FEM
‘Mom arrived with dad’

Sentence (41) (a) presents ‘mom’ and ‘dad’ as participating in the event together; it can be paraphrased as “The parents arrived.” This is a true coordinated comitative construction. In contrast, only ‘mom’ is the topic of sentence (41) (b), and the fact that she arrived with dad is viewed as secondary or perhaps supplementary information. The phrase ‘with dad’ is an adjunct, rather than a conjunct.

The fact that coordinating constructions involving conjunctions and the comitative markers are often used interchangeably in Russian (e.g., as in (39) above), coupled with the fact that comitative conjuncts are virtually indistinguishable from comitative adjuncts, except for the number marking on the verb (e.g., as in (41) above), creates theoretically favorable conditions for analogical leveling across constructions and disappearance of the comitative-conjunctive contrast in the conditions of limited linguistic input. In other words, upon hearing examples of *with*-coordination used alongside *and*-coordination, and upon noticing that *with*-phrases are able to occur both with singular and plural verbs (subtle nuances in meaning aside), it would not be totally unreasonable to hypothesize that heritage speakers may overgeneralize the principle of agreement shown in (40) to non-adjunct and non-comitative situations. In doing so, they would essentially treat the second conjunct in the complex coordinated subject as an adjunct, rather than a conjunct, which would predict that it would be excluded from subject-verb agreement.

The production data discussed in this section points to yet another distinctive feature of heritage Russian: absence of the plural pronoun comitative construction. The plural pronoun construction, found in Russian and other Slavic languages, is illustrated in (42) below:

(42) My s muzhem lubim puteshestvovat'
we.NOM with husband.INS love.PL travel.IMP.INF
'My husband and I like to travel'

The notable feature of the construction is the use of the plural pronoun *my* 'we,' rather than the singular *ja* 'I', followed by the comitative phrase, to convey the meaning similar to the English "my husband and I". The verb is marked for plural agreement. In data from heritage Russian speakers, this construction is partially or fully replaced with a coordinate construction of the English type. The following example illustrates a partial substitution, where the comitative marker is preserved, but the subject is in the singular form instead of the plural:

(43) **Ja s druz'jami** zanimalisja pokupkoi i pereprodazhei
I.NOM with friends.INS engaged.IMP.PL purchase.INS and reselling.INS
mashin
cars.GEN
'My friends and I were involved in buying and reselling cars'

Examples (36) and (38) above represent a full switch to the English type of coordination: they contain the first person pronoun *ja* 'I' conjoined with a noun phrase referring to another animate participant, e.g. *ja i moj muzh* 'my husband and I' and *ja i mama* 'my

mom and I.' This substitution presents an instance of a syntactic transfer from English, addressed in Section 1.2.4.

## 2.4 Prepositions

This section examines the use of prepositions, with a focus on instances which suggest patterns different from those observed in the baseline variety. First, examples of preposition omission are discussed, pointing to a possible area of interference from English, where some prepositions can be omitted in colloquial registers. Then, other cases of mismatches between heritage Russian and the baseline variety are addressed. Some of these examples are also suggestive of a transfer from English, as forms used by heritage speakers correspond verbatim to forms that would be required in English in the same contexts, rather than to forms that would be used by baseline speakers of Russian. However, it is further shown that not all instances of preposition misuse in the heritage Russian data are easily attributable to cross-linguistic transfer, suggesting that the redistribution of functions of some prepositions may be a more general sign of on-going language change, guided by internal principles of language development (Seliger and Vago, 1991: 10).

The following examples illustrate omission of prepositions that is likely caused by negative transfer from English. Colloquial registers of English allow for some degree of optionality with respect to the use of overt preposition with noun phrases denoting temporal localization of the event (e.g., *I'll see you on Saturday* or *I'll see you Saturday*). Baseline Russian does not allow for a similar optionality; nevertheless, prepositions are omitted in (44)-(45).

(44) **Subbotu** ja papa pomogaju pokrasit' dom.
Saturday.ACC I.NOM dad.NOM help.IMP paint.PFV.INF house.ACC
'Saturday I'm helping my dad to paint the house' (cf. RR: 'v subbotu')

(45) Mne nado prochitat mnogo knig v shkole **etot mesjats.**
Me.DAT need read.PFV many books.GEN in school.PREP this month.ACC
'I need to read many books at school this month' (cf. RR: 'za etot mesjats')

Additional examples consistent with the cross-linguistic transfer account are presented in (46)-(48) below. Prepositions in bold indicate literal translations of forms that would be required in English in these contexts; they differ from the corresponding Russian forms, indicated next to the translation.

(46) pervyj **cherez** dvenadtsatyj klass
first.MSC through twelfth.MSC grade.MSC
'first through twelfth grades' (cf. RR 's pervogo po dvenadtsatyj')

(47) Ja sdelala oshibki **na** moej domashnej rabote
I made.PFV errors.ACC on my.DAT home.DAT work.DAT
i poluchila trojku
and received.PFV three.ACC
'I made (some) errors on my homework and received a C' (cf. RR 'v moej').

(48) Na examene my sdelali oshibku i **dlja etogo**
on exam.PREP we.NOM made.PFV error.ACC and for this.GEN
poluchili ploxuju otmetku.
received.PFV bad.ACC grade.ACC

‘On the exam we made a mistake and for this received a bad grade’ (cf. RR ‘iz-za etogo’ or ‘za eto’)

(49) Ona postuchala **na** dver’ no nikto ne otvetil.
she knocked.PFV on door.ACC but nobody NEG answered.PFV
‘She knocked on the door, but nobody answered’ (cf. RR ‘v dver’)

However, it appears that not all non-target-like forms can easily be attributed to interference from English, and the following series of examples serves to illustrate this point. Example (50) below is particularly interesting in this respect, because the form that would have been required in English (*in*) is in fact the same as the one that would also be used in baseline Russian (*v* – ‘in’); however, the heritage speaker chooses a third option, *na* – ‘on’, which is not expected in either language. Overall, it seems that the prepositions *v* ‘in’ and *na* ‘on’ are particularly problematic for heritage speakers, as illustrated by the following examples, where one form is used when the other one would be required, and vice versa:

(50) **na** pjatom klasse
on fifth.PREP grade.PREP (cf. Eng. ‘in fifth grade’)
‘In fifth grade’ (cf. RR ‘v pjatom klasse’)

(51) Ja zapominal knigi **slovo** **na** **slovo**
I memorized. IMP books.ACC word.NOM on word.NOM
‘I used to memorize books word for word’ (cf. RR ‘slovo v slovo’)

(52) Moj mladshij brat i ego druzja
my.NOM younger.NOM brother.NOM and his.NOM friends.NOM

lubit pet' pesni **na** ixnee svobodnoe vremja.
love.IMP.SG sing.IMP.INF songs.ACC on their.ACC free.ACC time.ACC
'My younger brother and his friends like to sing songs in their spare time' (cf. RR 'v svobodnoe vremja')

(53) Na rabote **v** **obede** ja kushala buderbrod
on work.DAT in dinner.PREP I ate.IMP.FEM sandwich.ACC
'At work I ate a sandwich for dinner (lunch)' (cf. RR 'na obed')

(54) **V etu** **nedelu** mne nuzhno pokrasit' dom.
in this.ACC week.ACC I.DAT need paint.PFV.INF house.ACC
'This week I need to paint the house' (cf. RR 'na etoi nedele')

Zemskaja (2001: 94) finds a comparable tendency in Émigré Russian, where "semantically adjacent" prepositions are sometimes used interchangeably. Prepositions *v* 'in' and *na* 'on' appear to fall into this category due to certain semantic similarities: they both have a spatial and a temporal meaning, and in both domains, there are multiple instances of variability and interchangeability in their usage. Although literary Russian allows for only slight variability in this regard (e.g., with some geographical locations), colloquial registers of Russian exhibit a much more robust functional overlap between the two prepositions; this is consistent with a more general observation that the usage of prepositions is often regulated by conventions and historical tradition, rather than any logically-motivated factors (Zemskaja, 2001), and dialects in which standard conventions prevail are usually less susceptible to variability than non-standard or colloquial dialects.

In addition to *v* ‘in’ and *na* ‘on,’ other prepositions are sometimes used in a non-targetlike way without clear interference from English. The preposition *po* in (55) below is used instead of *na* ‘on,’ arguably as part of a memorized string: the verb *govorit’* ‘speak’ is frequently used with *po* when referring to the use or knowledge of specific languages (e.g., *govorit’ po-russki* ‘to speak Russian’, *govorit’ po-anglijski* ‘to speak English’); here, it is rather logically overextended to a broader context, where a different preposition would be conventionally required. In (56), the preposition used has no direct equivalent in English, making transfer an unlikely factor in accounting for its occurrence.

(55) Mne nravitsja govorit’ frazy **po drugim jazykam**
I.DAT like.REFL speak.IMP phrases.ACC po other.DAT languages.DAT
‘ I like to say phrases in other languages’ (cf. RR: ‘na drugix jazykax’)

(56) Francuzy chasto pjut bokaly vina **pri obede**
French.NOM often drink.IMP glasses.ACC wine.GEN at/with dinner.PREP
‘The French often drink glasses of wine with dinner’ (cf. RR: ‘za obedom’)

Overall, surface deviations from the baseline in the use of prepositions in heritage Russian and the coexistence of multiple tendencies and strategies governing this use provide an important illustration of the idea that heritage language development is best viewed as a complex and multifaceted phenomenon.

### 2.5 Emergence of Overt Determiners

Many studies of heritage language development in the context of intergenerational language loss focus primarily on structural attrition in the heritage grammar, manifested most vividly in simplification and loss of linguistic elements. A substantial body of

literature on language loss has described it as a process of simplification and elimination of redundancy: a crucial "characteristic of the language loss situation is the collapse or simplification of certain linguistic systems" (Levin, 1996: 118). However, as pointed out in Seliger and Vago (1991), restructuring of the grammatical system under conditions of limited input is not limited to simplification and loss. Simplification and elimination of redundancies in the context of attrition are not by any means processes whereby some elements of the grammar simply disappear, leaving the rest of the linguistic system unaffected, nor do these processes *necessarily* lead to a disappearance of linguistic elements in any given subsystem of the grammar. Rather, simplification can give rise to a partial or complete restructuring of the entire baseline system due to "the reanalysis of certain forms toward the reduction of redundancies in the system overall" (Levin, 1996: 118), even if this requires systematic development and addition of elements not attested in the baseline. The new elements (or old elements functionally extended to new contexts) appear to serve an important role of filling the needs of the changing linguistic system. Two particular examples of such innovations in heritage Russian will be discussed: the article-like use of determiners in contexts where no determiners would be used in the baseline variety (this Section) and the emergence of resumptive pronouns (Section 2.6 below).

Russian is an article-less language, and bare nouns are typically contextually disambiguated as generic/specific or definite/indefinite. In the following sentences, overt possessive pronouns *my*, *his*, *their*, o*ur* and demonstrative *this* are not strictly ungrammatical but pragmatically redundant. All elements in bold in the following

examples can be easily omitted, making the utterances sound more natural. Sentences in (57)-(63) illustrate redundant use of the first person possessive pronoun *my*:

(57) Ja nachala risovat' kruzhochki na **moej** domashnej rabote.
I began.PFV draw.IMP circles.ACC on my.DAT home.DAT work.DAT
'I began drawing circles on my homework'

(58) Ja pela pesnju dlja **moix** druzej.
I sang.IMP song.ACC for my.GEN friends.GEN
'I was singing a song for my friends'

(59) Mne nado prochitat' "Vojna i Mir" dlja
mne.DAT need read.PFV war.NOM and peace.NOM for
**majavo** angliskava klasa.
my.GEN English.GEN class.GEN
'I need to read "War and Peace" for my English class'

(60) **Moj** dedushka lubit pisat' knizhki
my.NOM grandpa.NOM likes.IMP write.IMP books
na **ego** svobodnoe vremja.
on his.ACC free.ACC time.ACC
'My grandpa likes to write books in his spare time' (cf. RR 'v sbobodnoe vremja')

(61) **Moja** babushka spekla tort.
my.FEM.NOM grandma.FEM.NOM baked.PFV case.ACC
'My grandma baked a cake'

(62) Ja sjem **moj** buterbrod v obedennoe vremja.
I eat.FUT.PFV my.ACC sandwich.ACC in dinner.ACC time.ACC
'I will eat my sandwich for dinner (lunch)'

(63) Ja poprosila **mojego** brata spet' odnu pesnju.
I asked.PFV my.ACC brother.ACC sing.PFV one.ACC song.ACC
'I asked my brother to sing one song'

Other possessive pronouns frequently surface in contexts where they are unnecessary, contributing to the overall impression of extreme redundancy of expression in heritage Russian: for example, *nash* 'our' in (64) refers to a house already contextually identified as belonging to the speaker's family; *vashu* 'your' occurs in (65) despite the presence of overt sentential subject, which together with contextual information (a direct question) makes it unambiguously clear that the addressee's car is under discussion.

(64) **Moj** otets pokrasil **nash** dom na
my.NOM father.NOM painted.PFV our.ACC house.ACC on
proshloj nedeli.
last.GEN week.GEN
'My father panted our house last week' (cf. RR 'nedele.PREP')

(65) Gde vy kupili **vashu** mashinu?
where you bought.PFV your.ACC car.ACC
'Where did you buy your car?'

In addition to possessive pronouns, demonstrative pronouns are also attested in contexts where they are not strictly ungrammatical, but unnecessary in the baseline,

unless a contrastive interpretation (e.g., '*this sheet' as opposed to 'that other sheet'*) is specifically assumed:

(66) Ja narisovala kruzhok na **etom** liste bumagi.
I drew.PFV circle.ACC on this sheet.PREP bumagi.GEN
'I drew a circle on a sheet of paper'

(67) Narisuj bolshoj krug na **etoj** bumagi.
draw.PFV.IPR big.ACC circle.ACC on this paper.GEN
'Draw a big circle on this paper' (cf. RR: 'na etoj bumage.PREP')

Use of overt determiners in an article-like fashion in heritage Russian is likely to be due to influence of English, where articles are used productively and the absence of an overt determiner represents a deliberate grammatical option. While in baseline Russian bare nouns can have a number of contextually determined interpretations with respect to definiteness and/or specificity, the use of bare nouns in English is much more restricted. In some contexts, bare nouns are entirely ungrammatical (e.g., **I want car*); in others, they yield salient interpretations of indefiniteness or genericity that could be absent in an article-less language under particular contextual and discourse-pragmatic conditions (e.g., *Cars are expensive*). Incomplete knowledge of these conditions in the heritage language, together with the desire to avoid perceived ungrammaticality or infelicity from the point of view of the conventions transferred from the dominant language, may explain occurrence of article-like elements in heritage Russian.

## 2.6 Other Null Elements Used Overtly

Another instance of grammatical restructuring manifested in the emergence of new elements in the heritage language is described in Polinsky (1995: 99-101) as the use of resumptive pronouns. Polinsky (1995) discusses structural similarities in six genetically unrelated languages under attrition (Eastern Armenian, Lithuanian, Polish, Russian, Kabardian, and Tamil), all undergoing systematic reorganization due to insufficient use. All languages appear to rely heavily on the use of resumptive pronouns – i.e., pronominal elements co-referenced with the subject in the same clause. Interestingly, all corresponding full languages in Polinsky's (1995) study employ resumptive pronouns in spoken registers, where these pronouns are used mainly for information-structural purposes (e.g., to co-index the topic of the sentence with the grammatical clause). Thus, the occurrence of resumptive pronouns in heritage languages represents an extension of a tendency already present in the baseline varieties. However, the occurrence rates are significantly higher in heritage languages than in the spoken varieties of the corresponding full languages. Polinsky (1995) ascribes this to the loss of agreement in the heritage language: "in the absence of agreement, the resumptive pronoun becomes the only means of signaling the syntactic function of a given NP" (p. 101).

The following example, from the present corpus, illustrates the use of the Accusative resumptive pronoun *ego* 'it' co-referenced with the noun *mjach* 'ball' in the sentence-initial position. The pronoun would not be grammatically necessary here from the point of view of baseline Russian. Note, however, that zero inflection on the subject noun make it formally ambiguous between the Nominative and Accusative case readings, while the pronominal element has distinct forms for the Nominative (*on*) and Accusative

(*ego*) case, helping to unambiguously identify the noun as the direct object in the sentence.

(68) Mjach ty dolzhen **ego** brosat' peredavat'.
ball.NOM/ACC you must it.ACC throw.IMP.INF pass.IMP.INF
'You must throw and pass the ball' (Lit. 'The ball, you must throw and pass it')

Coreference across clauses is another area where differences between the heritage and baseline grammars are manifested in the emergence of overt elements (rather than reduction or loss) in the former. In baseline Russian, presence of multiple clauses with coreferenced subjects typically requires a null copy of the subject. However, Polinsky (1995, 1997) observes that heritage speakers consistently avoid the null copy, replacing it with a pronominal element. This tendency is also attested in the present data. For example, the pronouns in subordinate clauses are redundant from the point of view of baseline Russian in sentences (69)-(71) below:

(69) **On** sovershil bolshuju oshibku, kogda **on** ostavil ejo vchera.
he made.PFV big.ACC mistake.ACC when he left.PFV her.ACC yesterday
'He made a big mistake when he left her yesterday'

(70) **Ja** sdelala bolshuju oshibku kogda **ja** kupila moju
I made.PFV big.ACC mistake.ACC when I bought.PFV my.ACC
pervuju mashinu.
first.ACC car.ACC
'I made a big mistake when I bought my first car'

(71) Posle sport cluba **ja** byla golodnaja, poetemu **ja** kupila sandvich.
after sport club.GEN I was hungry.FEM therefore I bought.PFV sandwich
'After the sport club I was hungry and therefore I bought a sandwich'

Clause-internal and inter-clausal resumptive pronouns are an important property of heritage Russian: both phenomena contribute to increased redundancy of expression frequently noted of heritage grammars – i.e., presence of material (lexical or grammatical) that would be considered unnecessary from the point of view of a baseline speaker. In the words of Polinsky (2006a), "attrition does not result in a random loss of linguistic knowledge but rather, in a systematic increase of analyticity and a high level of overmarking, which is indicative of increasing redundancy of expression" (p. 48). The surplus material used for overmarking may be emerging for a variety of reasons: on the one hand, it may be triggered by the grammatical changes taking place in the linguistic system of the heritage language, such as loss of subject-verb agreement in the case of clause-internal pronouns (Polinsky, 1995). On the other hand, insufficient confidence on the part of the heritage speaker may trigger redundancy as a means of aiding the hearer in order to ensure that "the message will be parsed and decoded properly" (Polinsky, 1997: 386).

The latter explanation is consistent with the notion of compensatory strategies, used in language acquisition research to refer to linguistic strategies used by speakers who believe that their linguistic system is imperfect (Turian and Altenberg, 1991 and references therein). Besides the excessive use of pronouns illustrated above, tendencies towards redundant marking can be found in other linguistic domains in heritage Russian. For example, sentences describing frequently occurring events are often accompanied by

what appears to be an emerging overt lexical marker of habituality *lubit* 'love to,' which surfaces in contexts where habitual meaning is already signaled by other means, such as overt adverbials of frequency *all the time* or *always*.

| | | | | | | |
|---|---|---|---|---|---|---|
| (72) | Moja | mama | **vse vremja** | lubit | gotovit' | pirogi. |
| | my.NOM | mom.NOM | all the time | loves.IMP | cook.IMP.INF | pies.ACC |
| | 'My mom all the time loves to make pies' | | | | | |

The presence of *lubit'* allows the main sentential predicate in its scope to remain unmarked for tense, person, number, or gender (although all Russian verbs are marked for aspect). Coupled with the discussion of general agreement difficulties documented in some lects of heritage Russian (particularly, the basilectal varieties), emerging preference for a unitary habituality marker may be viewed as another compensatory strategy arising due to the loss or erosion of agreement.

### 2.7 Overt Elements Dropped

While the use of overt elements in contexts where speakers of the baseline variety would use null elements appears to be a robust feature of heritage Russian, the opposite strategy, omission of overt elements, has also been documented in the present corpus. This section will discuss the phenomenon of subject omissions in heritage Russian.

Russian is traditionally treated as a non-pro-drop language (e.g, Franks, 1995), because overt realization of arguments is preferred in contexts where the 'genuine' pro-drop languages prefer omission: unlike Spanish and Italian, where referential null subjects are normally used in tensed clauses in the absence of overt antecedents in the preceding discourse, Russian only allows for null subjects in contexts where the omitted

subjects have a linguistic or situational antecedent, i.e. if the referent of the empty category has been established verbally (73) or pragmatically (74), (75):

(73) A. Marina prinesla knigu?
Marina.FEM.NOM brought.PFV book.ACC
'Has Marina brought the book?'

B. Net, __ zabyla __
no forgot3.SG.FEM.PFV
'No, (she) forgot (it)'

(74) *Context: A man is fixing his car. His neighbor walks up to him. The man turns around, points to his car, and says:*
__ opjat' slomalas'
again broke.3.SG.FEM.PFV
'(It) broke again'

(75) __ xochesh chaju?
want.2.Sg tea.GEN
'Do you want some tea?'

In (73), the subject and direct object omission is possible because the referents of both are present in the preceding sentence. In example (74), however, the referent of the omitted subject (*mashina*.FEM 'car') is established situationally, rather than linguistically. Similarly, in (75), the subject which marks the addressee of the question, *ty* 'you,' is not overtly expressed. Nevertheless, the strong agreement features expressed on the verb (gender, number and person) make it possible to unambiguously identify the intended

referent in each case. In addition to the presence of rich agreement, which is taken to be linked with the occurrence of null subjects cross-linguistically (Ouhalla, 1999: 312), the examples under discussion also meet the language-specific pragmatic conditions for felicitous use of the null elements. The occurrence of null subjects (as well as direct objects) in Russian is regulated by contextual requirements (Gordishevsky and Avrutin, 2004 and references therein); this distinguishes Russian from the so-called 'genuine' pro-drop languages in that the latter, and not the former, require that non-emphatic elements be not expressed overtly. In Russian, no such grammatical requirement exists, and subjects and objects may or may not be omitted, depending to a large extent on extra-linguistic factors.

The resulting optionality in the use of null and overt subjects has been argued to pose a potential problem in early L1 acquisition, because the task of learning where the subjects are and are not omissible is complicated by the presence of both options in the input. Gordishevsky and Avrutin (2004) present empirical evidence on subject and object omissions in the production data from six monolingual Russian children between the ages of 1;8-2;6 to suggest that while early L1 learners of Russian are overall close to the adult norms in their rates of subject and object omissions, they tend to overuse empty elements, e.g. by using them in contexts where no appropriate verbal or extra-linguistic reference to the omitted element in provided, making it difficult or impossible to recover it from the context.

Some of the sentences produced by heritage speakers in the sentence construction experiment point to a seemingly parallel tendency in heritage Russian: examples (76)-(79) illustrate overuse of empty elements, manifested in infelicitous subject omissions. In

all instances, the referent of the null subject is not recoverable from the context, creating a difficulty for obtaining the intended interpretation. The agreement morphology on the verb is not sufficient for identifying the referent unambiguously because all relevant verbs in the sentences under consideration are used in the past tense, where Russian verbs agree with the subject in number and gender, but not in person.

(76) S roditeljami __ poexali pokupat' mashin
with parents __ went.PL.PFV buy.IMP.INF cars.GEN
'[We/they/you] went to buy cars with [our/their/your] parents' (cf. RR 'pokupat' mashiny.ACC')

(77) Na prazdniki __ izgotavlivali torty.
on holidays.ACC __ made.PL.IMP cakes.ACC
'[We/they/you] made cakes for the holidays'

(78) __ napisala dva pisma, odna idet
__ wrote.FEM.PFV two letters.NEUT one.FEM goes.IMP
v Ukrainu a drugaja v Rossiju.
in Ukraine.ACC and other.FEM in Russia.ACC
'[She/I] wrote two letters: one is going to the Ukraine and the other one to Russia' (cf. RR 'odno.NEUT', 'drugoje.NEUT')

(79) Za odnu noch __ prochitala mnogo knig,
in one.FEM.ACC night.ACC __ read.FEM.PFV many books.GEN

| | | | |
|---|---|---|---|
| potomu shto | spat’ | ne | smogla. |
| because | sleep.IMP | NEG | could.FEM.PFV |

‘In one night [she/I] read many books because [she/I] couldn’t sleep’

The above examples raise additional questions about the status of overt and null elements in heritage grammars: earlier observations, for example, point to an opposite trend – a tendency towards the loss of the pro-drop feature in pro-drop languages under attrition. On the basis of examples from three pro-drop languages in her sample (Polish, Tamil, and Kabardian) Polinsky (1995) found that her informants preferred to produce overt elements in subject positions and even rejected pro-drop sentences on acceptability judgment tasks, replacing the null elements with overt pronouns and NPs. It seems that a more systematic study is needed in order to explain deviations from the baseline on both sides, one which would control for various additional factors, such as particular properties of the baseline language with respect to the pro-drop phenomena, e.g. whether the use of null and overt elements is governed by grammatical or pragmatic requirements. Additionally, variation is possible due to speaker proficiency level, as well as due to differences in age of interrupted exposure to the baseline. For example, speakers whose exposure to the baseline stopped in early childhood may exhibit deviations due to incomplete acquisition of the grammatical or pragmatic requirements of subject omission, with deviations being similar to those of early L1 learners (cf. Gordishevsky and Avrutin’s (2004) findings on overuse of null elements by young Russian-speaking children). In contrast, heritage speakers who were exposed to the baseline until or past the age at which the relevant conditions are successfully acquired may instead show attrition

effects, which in principle could trigger different types of restructuring processes, leading to different properties in the resulting grammar.

## 2.8 The Subjunctive

Gradual loss of mood distinctions, including loss of the subjunctive, has been well documented for varieties of Spanish in the US (Silva-Corvalán, 1995). A recent study by Montrul (2009) presents experimental evidence to suggest that Spanish heritage speakers do not differentiate between the subjunctive and indicative mood not only in production but also in comprehension.

Data on American Russian collected by Polinsky (1996: 49) contains examples suggestive of the loss of the subjunctive, at least in production, in heritage Russian. The subjunctive in baseline Russian is expressed by two elements: a particle *by* (which in the context of conditional clauses attaches to the complementizer introducing the conditional clause, producing the form *shtoby*) and the past tense of the verb in the conditional clause. In heritage Russian, the subjunctive complementizer *shtoby* surfaces without the subjunctive particle as the more basic indicative complementizer *shto*, and the verb in the conditional clause may or may not be used in the past tense.

(80) *Example from Polinsky (1996: 49)*

| | | | | |
|---|---|---|---|---|
| Ja xochu | **shto** ti | **vstretish** | moj | boyfriend. |
| I want | that you | meet.PFV.FUT | my.NOM | boyfriend.NOM |

'I want you to meet my boyfriend'

Examples illustrating loss of the subjunctive complementizer are also attested in the present corpus; however, overall it appears that the category of the subjunctive is not

lost altogether insofar as at least one of the elements marking the construction is preserved: while the particle *by* is occasionally missing, the verbs in the conditional clause are invariably used in the past tense.

(81) Uchitelnitsa xotela **shto** detki **risovali** krugi.
teacher.NOM wanted.IMP that children.NOM drew.IMP circles.ACC
'The teacher wanted the children to draw circles' (lit. 'wanted that children…')

(82) Rebenok xotel **shto** mama **pela** odin pesnju.
child.NOM wanted.IMP that mom.NOM sang.IMP one.NOM song.ACC
'The child wanted mom to sing one song' (lit. 'wanted that mom…')

In the following example, three particles *by* would be required in baseline Russian: one following each verb in the conditional mood, marked in bold: *vernulsja by* 'would return,' *zhil by* 'would live,' and *vyuchil by* 'would learn.' The heritage speaker does not use the conditional particle; however, all verbs are used in the past tense, consistent with the baseline requirements.

(83) Ja dumaju shto jesli ja tam **vernulsja** v Rossiju
I think.IMP that if I there returned.PFV in Russia.ACC
i **zhil** tam neskolko let togda ja srazu
and lived.IMP there several years.GEN then I immediately
**vyuchil** vsjo shto uzhe ne znal.
learned.PFV everything that already NEG knew.IMP
'I think that if I came back to Russia and lived there for several years I would have learned everything that I had forgotten'

## 2.9 Vocabulary

It is a generally accepted fact that intergenerational language loss inevitably involves massive changes in the vocabulary of the heritage language (e.g., Sands, Miller, and Brugman, 2007; Zemskaja, 2001, *inter alia*). This section presents a brief introductory discussion of some distinctive features of the lexicon of heritage Russian. The data discussed in this section are drawn primarily from two sources: the sociolinguistic interviews and sentences constructed by heritage speakers in the sentence construction experiment.

The latter source provides an especially striking illustration of the special sociolinguistic situation characteristic of language use in the context of heritage language acquisition. All sentences constructed by heritage speakers were analyzed for content, revealing an interesting pattern: thematically, the overwhelming majority of these sentences revolved around home and family. The examples provided in earlier sections of this chapter constitute only a small sample of sentences constructed by heritage speakers, but these examples serve well in representing the overall sample thematically. With very few exceptions, all sentences produced by heritage speakers are about family members: mothers, fathers, siblings, and grandparents, who are involved in basic everyday activities in the home domain. In comparison, sentences from bilingual and monolingual speakers of Russian in the control groups are not limited to the home and family domain and instead show a wide range of variation of themes and contexts: they involve professional activities, references to events happening at work and school, literary and movie characters, historical figures, events in popular culture, political events, and generally involve all spheres of the current socio-political discourse. This observation is consistent

with what we know about the nature of heritage language acquisition: the language was acquired and continues to be used only at home, in talking with and often about family members and domestic routines, and this pattern is reflected in the heritage speakers' choice of lexical material in an otherwise context-free production experiment. When constructing sentences in Russian, heritage speakers simply remain in their linguistic comfort zone.

A related feature of the heritage Russian vocabulary is a frequent use of colloquial expressions and childish vocabulary (also observed in Polinsky, 1996; Zemskaja, 2001). For example, the word *krugi* 'circles' surfaced on the sentence construction task in a variety of diminutive forms (cf. English 'doggie' for 'dog'), such as *krugljashki*, *kruzhochki*, or *kruzhki*:

(84) Kogda mne skuchno ja risuju **krugljashki**.
when me.DAT boring I draw.IMP circles.ACC
'When I am bored, I draw (cute little) circles'

(85) Ja nachala risovat' **kruzhochki** na mojej domashnej rabote.
I began draw.IMP circles.ACC on my.PREP home.PREP work.PREP
'I began drawing (little) circles on my homework'

(86) Oni resujut **krushki**.
they draw.IMP circles.ACC
'They draw/are drawing circles'

Diminutive forms were attested for other nouns, such as *knizhki* for *knigi* 'books,' *tortiki* for *torty* 'cakes,' *detki* for *deti* 'children' (see examples below). Polinsky (1996) finds

multiple instances of diminutive forms in her data and suggests that the diminutive semantics may no longer be perceptible to heritage speakers, who, having acquired these forms as children, continue to use them as adults without reanalyzing their meanings.

(87) Ja ne lublju chitat' **knizhki**.
I NEG love.IMP read.IMP books.ACC
'I don't like reading books'

(88) Moja babushka ochen lubit pech **tortiki**.
my grandma very loves.IMP bake.IMP cakes.ACC
'My grandma really likes to bake cakes'

(89) Uchitelnitsa xotela shto **detki** risovali krugi.
teacher.NOM wanted.IMP that children.NOM drew.IMP circles.ACC
'The teacher wanted the children to draw circles' (lit. 'wanted that children…')

The occurrence of 'childish-sounding' or colloquial forms is not limited to nouns occurring with diminutive morphology. Possessive pronouns characteristic of colloquial or uneducated registers (e.g., *ixnij* for *ix* 'their') occur in the production data, such as in example (37) above. The verb *eat* frequently exhibits variation between the standard form *est'* and the more colloquial variant *kushat.'* The latter form is also typical of some southern Russian dialects (Zemskaja, 2001) and is found in informal registers and child-directed speech.

(90) Ja xochu **pokushat'** buterbrod.
I want.IMP eat.PFV sandwich.ACC
'I want to eat a sandwich' (lit. 'have some sandwich')

(91) Moya babushka xochit **skushat'** sandwich.
my grandmother wants.IMP eat.PFV sandwich.ACC
'My grandmother wants to have a sandwich'

The use of the English word *sandwich* in the last example is representative of another general pattern observed in the data from heritage speakers: a frequent use of borrowings (i.e., straightforward insertions of English words), as well as lexical and grammatical calques (literal Russian translations of the equivalent English words and constructions). Some examples of direct borrowings from English are shown below:

(92) Posle **sport cluba** ja byla golodnaja poetemu ja kupila sandvich.
after sport club.GEN I was hungry.FEM therefore I bought.PFV sandwich
'After the sport club I was hungry and therefore I bought a sandwich'

(93) My poluchili **discount** potomu shto pokupali mnogo
we received.1.PL.PFV discount because buy.1.PL.IMP many
mashin srazu.
cars.GEN at once
'We got a discount because we were buying many cars at once'

(94) Etot **dealership** pokupajet mnogo mashin.
this dealership buy.3.SG.IMP many cars.GEN
'This dealership buys many cars'

(95) Ja ejo poprosila spech tort na **party**.
I her.ACC asked.1.PFV bake.PFV.INF cake.ACC on party
'I asked her to bake a cake for the party'

In addition to overt borrowing of English words and phrases, some speakers exhibit a more covert cross-linguistic influence in translating the English words or phrases literally into Russian. In many cases this strategy does not result in breakdowns in communication, as the intended meaning can be guessed from the calqued expression, but the resulting unusual (from the point of view of a monolingual native speaker) lexical choices clearly mark heritage speakers as foreign-sounding or non-native.

(96) Dlja geometrii nado **znat'** **kak** risovat' krugi.
for geometry.GEN necessary know.IMP.INF how draw.IMP circles.ACC
'For geometry, one needs to know how to draw circles' (cf. RR 'umet')

(97) Ja pervyj raz **staralsja** prochitat' etu knigu
I first.NOM time.NOM tried.IMP read.PFV.INF this.ACC book.ACC
tri goda nazad.
three years.GEN ago
'I tried to read this book for the first time three years ago' (cf. RR 'pytalsja')

(98) Na moem **klasse** risovanija
on my.PREP klass.PREP drawing.GEN
'In my art class' (cf. RR 'na uroke')

(99) Papa **zanjal** ochen' dolgo shtoby pokrasit' dom
Dad.NOM occupied.PFV very long.ADV so that paint.PFV house.ACC
'It took dad a long time to paint the house' (cf. RR 'pape potrebovalos' mnogo vremeni…' – 'it took dad a long time')

(100) Rebenok pel odnu pesnju **opjat' i opjat'**.
child.NOM sang.IMP one.ACC song.ACC again and again
'The child kept singing one song again and again' (cf. RR 'snova i snova')

(101) Ty takoi **tonkij** skushai buterbrod.
you such.MSC thin.MSC eat.PFV.IPR sandwich.ACC
'You are so thin, eat a sandwich!' (cf. RR 'xudoj')

It appears that (at least some) heritage speakers are well aware of their frequent use of English words, as well as Russian calques from English. Consider, for instance, example (102) below, in which a heritage speaker provides a commentary on his use of English expressions in Russian (code-switched elements are indicated in italics). The example also serves as a quite vivid illustration of the code-switching phenomenon, which appears to be exceptionally common with acrolectal (high-proficiency) speakers and undoubtedly deserves a systematic study in its own right.

(102) Ja znaju shto ja *do that thing that apparently a lot of people do*
I know.IMP that I
gde ja govorju anglijskuju frazu s russkimi slovami
where I speak.IMP English.ACC phrase.ACC with Russian.INS words.INS
gde ja beru *like idioms… English idioms and say them in Russian*.
where I take.IMP
'I know that I *do that thing that apparently a lot of people do*, where I say an English phrase with Russian words… where I take *like idioms, English idioms and say them in Russian*.'

While some transfer from English is unquestionably present in the area of the lexicon, as evidenced by an abundance of direct English borrowings, code-switches, and translated calques in production data (only a small portion of which were illustrated in the examples above), not all instances of lexical deviations from the baseline are indicative of cross-linguistic transfer. For example, the following instances of word misuse are not attributable to English influence. In fact, the use of the word *skazka* 'fairy-tale' instead of *istorija* 'story' in example (103) may be an attempt by a heritage speaker to avoid an anglicism by choosing a word that sounds less like its English equivalent:

(103) xotel rasskazat' eshe odnu **skazku**
wanted.IMP tell.PFV.INF more one.ACC fairy-tale.ACC
'(I) wanted to tell (you) one more story' (cf. RR 'istoriju')

(104) Na moem examene ja **oshibalas'** na mnogie otvety.
on my.PREP exam.PREP I erred.FEM.IMP on many.ACC answers.ACC
'On my exam I got many answers wrong' (cf. RR 'nepravil'no otvetila')

Other instances of word misuse in the available data illustrate a reanalysis due to a phonological similarity with other forms of the same words or with other, semantically unrelated words. For example, the root-final consonant in the Russian imperative form for 'bake' *ispeki* differs from the root-final consonant in the infinitive form *ispech* (a velar stop and a palatal affricate, respectively). However, a heritage speaker uses the palatal fricative in the imperative form, likely by analogy with the infinitive (105). In an example from another speaker, the plural form for 'circles' *krugi* surfaces with an epenthesized lateral liquid, resulting in *krugly* (107). A likely source of this addition is

the existence of an adjective form *kryglyi* ‘round,’ derived in Russian from the noun *krug* ‘circle.’ In (107) and (108), deletion of the unstressed root vowel results in a shift in lexical meaning: the intended verbs *pojot* ‘sings’ and *poju* ‘sing’ are substituted with *pjot* ‘drinks’ and *pju* ‘drink,’ respectively, due to phonological similarity.

(105) Na mojo denrazhdenja pozhalujsta **spechi** tort.
on my.NEUT birthday.NEUT please bake.2.PFV.IPR cake.ACC
‘For my birthday, please bake a cake’ (cf. RR ‘*ispeki* - bake’)

(106) V klasse nado nauchitsja kak risovat’ krugly
in class.PREP need learn.PFV.REFL how draw.IMP.INF circles.ACC
‘In (this) class we need to learn how to draw circles’

(107) Babushka vsegda **pjot** interesnye pesni.
grandma.NOM always drinks.3.SG.IMP interesting.PL.ACC songs.ACC
‘My grandma always drinks interesting songs’ (intended: *sings*)

(108) Ja kazhdyi vecher s druzjami **pju** pesni.
I every.ACC evening.ACC with friends.INS drink.1.SG.IMP songs.ACC
‘Every night I drink songs with my friends’ (intended: *sing*)

## 2.10 Summary

The chapter has provided an overview of overt lexical and grammatical changes in production data from heritage speakers. Overall, the findings are consistent with previous studies on overt restructuring in the context of HLA and, more generally, with patterns observed in intergenerational language loss, such as those summarized in (2) above. Examples discussed in this chapter point to a reduction of vocabulary as well as

structural shifts in the grammar indicative of a gradual simplification and loss of systems of case, gender, and agreement. All these changes are highly consistent with the view of heritage grammars as reduced varieties of the corresponding baseline grammars. At the same time, the data suggests that not all changes involve reduction and loss of elements, and that a systematic reorganization of the grammar in a HLA context may also be manifested in emergence and addition of new elements and strategies not attested in the baseline grammar. Language loss is traditionally defined as a process of simplification and elimination of redundancy: a crucial 'characteristic of the language loss situation is the collapse or simplification of certain linguistic systems' (Levin, 1996: 118). Yet, heritage grammars may also contain elements seemingly redundant from a morphological, syntactic, or pragmatic standpoint: emergence of resumptive pronouns and overt determiners discussed in this chapter are just two such strategies. Overall, it seems that simplification and elimination of redundancies in the context of HLA are not by any means processes whereby some elements of the grammar simply disappear, leaving the rest of the linguistic system unaffected, nor do these processes *necessarily* lead to a disappearance of linguistic elements in any given subsystem of the grammar. Rather, simplification can give rise to a partial or complete restructuring of the entire baseline system due to 'the reanalysis of certain forms toward the reduction of redundancies in the system overall' (Levin, 1996: 118), even if this requires systematic development and addition of new elements and strategies not attested in the baseline variety.

# Chapter 3 Aspect as a Verbal Matter

A comprehensive theoretical characterization of aspect as a linguistic category, or even of a particular manifestation of this category in a given language, is a task that could easily yield a dissertation-length discussion in its own right. As Binnick (1991: 135) cautiously warns us, "[t]he study of aspect has been linked to a dark and savage forest full of 'obstacles, pitfalls, and mazes which have trapped most of those who have ventured into this much explored but poorly mapped territory.'" In the hope to avoid the traps, this work will guide the reader along the following path, mapped out largely as a reflection of the stages in historical development of aspectology. First, I will discuss aspect at the level of the verb, much as it had been treated in the earliest studies on the subject. In later chapters, I will follow subsequent theoretical developments, which have identified the level of the verbal phrase, rather than the verb, as relevant for important aspectual phenomena cross-linguistically (Chapter 4). In Chapter 5, literature on the sentential and larger discourse-pragmatic aspectual effects will be reviewed, contributing to the treatment of aspect as a complex and multi-dimensional phenomenon.

The present chapter consists of three main parts, each addressing an important set of theoretical foundations without which this work would not have been possible. As evidenced by the title, the chapter follows a long-standing tradition in Slavic aspectology, as well as some early Western work, to treat aspect in all its instantiations largely as a verbal matter, i.e. as pertaining to the verb alone. In the first two parts of this chapter, as well as in all subsequent chapters, aspect will be approached from two distinct angles: it will first be discussed as a lexical notion (dating back to Vendlerian classification of

verbs into types) and then as a grammatical notion, as instantiated through verbal morphology in Russian and other Slavic languages. In the third part of this chapter, I will focus on a complex set of interactions between the two levels; here, I will also discuss existing work on aspect in heritage Russian. The placement of this crucial discussion in a chapter that addresses aspect as a verbal matter stems from the fact that much of the existing work on heritage Russian aspect has so far been conducted from a theoretical perspective that has assumed, explicitly or implicitly, that aspect is largely a verbal matter.

The theoretical foundations introduced in this chapter are revisited in subsequent chapters, where experimental evidence is provided to suggest that the interaction between lexical (or, rather, lexico-compositional) and viewpoint aspects in heritage Russian extends beyond the properties of individual verbs and into larger linguistic units: aspectual variation at the VP-level can be observed in the variety of Russian spoken by advanced heritage speakers (Chapter 4). Sentential and discourse-pragmatic aspectual effects in the data from heritage and non-heritage bilingual Russian-English speakers are then discussed in Chapter 5 and Chapter 6, respectively.

## 3.1 Lexical Aspect

It is now common, if not expected, to preface an introductory discussion of aspectual issues with statements about terminological confusion surrounding the phenomenon, sometimes followed by an extensive overview of notions that have most frequently been confused or mistakenly conflated in preceding studies. For our immediate purposes, such broad summary is largely unnecessary (but see Binnick, 1991; Borik, 2006; Sasse, 2002, *inter alia*); instead, the terminological overview will focus on two

notions deemed to be of utmost importance to this dissertation: the dimension of the so-called *lexical aspect* (with a variety of other terms frequently used to designate this domain of aspectual meaning, e.g. 'Aktionsart,' 'aspectuality,' 'aspectual potential,' 'event sort,' 'inherent aspect,' 'situation type'), which will further be contrasted with the dimension of the so-called *viewpoint aspect* (also referred to as 'aspect proper,' 'perspective point,' 'grammatical aspect') in Section 3.2.

Since the earliest classifications of verbs into types, such as Aristotle's *energiai* and *kinesis*, literally 'actualities' and 'movements' (Binnick, 1991: 172; Salaberry, 2000: 18; Rothstein, 2004: 2) or, subsequently, Vendler's (1957) states, activities, accomplishments, and achievements (to be examined in more detail in Section 3.1.1 below), studies on aspect have attempted to capture and account for differences in inherent lexical meanings of verbs and predicates pertaining to their temporal makeup. It has been noticed that in various languages of the world, including languages which do not morphologically mark aspect as well as languages which do, certain distinctions can be made between verbs with respect to how temporality is encoded in their inherent lexical meanings. There are verbs that refer to actions that have a built-in endpoint, such as *cough* or *win*, and verbs that refer to actions which are relatively more stretched out in time and do not contain an inherent limit, such as *run* or *know*. Consider, for instance, the following sentences:

(109) a. Masha found a puppy.

b. Masha wanted a puppy.

In (109) (a), the meaning of *find* can be thought of as containing an endpoint after which the action denoted by the verb can no longer continue (i.e., once the puppy is found, the action denoted by the verb is over), while *want* in (109) (b) contains no such internal endpoint or semantic limit specified on the verb. In other words, *find* in (109) (a) belongs to the class of verbs that "involve a product, upshot, or outcome, something resultant," while *want* in (109) (b) represents a class of verbs that refer to something that, put simply, "just happens" or "just is" (Binnick, 1991: 189). The presence of a temporal boundary in (109) (a) and absence of such boundary in (109) (b) account for the fact that the former sentence is compatible with a time-span adverbial *in some time*, rather than a duration adverbial *for some time*, while the latter sentence displays the opposite pattern.

(110) a. Masha found a puppy in an hour / *for five minutes.

b. Masha wanted a puppy for a long time / *in a year.

Distinctions between properties of event-types denoted by verbal expressions are captured in terms of the notion of lexical aspect – a non-grammatical category that signals the temporal makeup of verbs and predicates (Bardovi-Harlig, 2000; Binnick, 1991; Rothstein, 2004) and describes the temporal structure internal to an event (Guéron and Lecarme, 2004), including the presence or absence of a potential limit. The term 'lexical aspect' is often used interchangeably with the term 'Aktionsart' (e.g., Guéron and Lecarme, 2004); however, the latter term (from German *Aktionsart* 'kind of action') is sometimes also discussed as a distinct, more narrowly defined category that describes various lexical sub-groups based on the semantic contributions of particular verbs or

expressions[8] (Leinonen, 1982; Salaberry, 2000). In this dissertation, the term 'lexical aspect' will be reserved for talking about a distinction between predicates which contain potential endpoints (also known as telic predicates) and predicates without such endpoints (also known as atelic predicates).

The term 'telic' (along with its negative counterpart 'atelic') comes from the Greek word *telos* ('goal,' 'aim,' 'final point') and is commonly translated into English as 'directed towards a goal' or 'goal-oriented,' consistent with Garey's (1957: 106) original definition of telic verbs as "verbs expressing an action tending towards a goal." While there is little argument about the translation of the term, its interpretation is still subject to scholarly debate. On the terminological side, the notion of telicity is sometimes conflated with the notion of boundedness: both terms appeal to the notion of a limit or a boundary; in fact, the Russian term for telicity, *predel'nost'*, literally means 'having a boundary' or 'bounded,' adding additional confusion to the existing multiplicity of opinions with respect to the two notions in aspectological circles. Following distinctions outlined in previous studies (Depraetere, 1995; Smith, 1991; Slabakova, 2001), I will draw the line between the two terms as follows. In the words of Depraetere (1995: 2-3), (a)telicity "has to do with whether or not a situation is described as having an inherent or intended endpoint; (un)boundedness relates to whether or not a situation is described as having reached a temporal boundary." Hence, I will use the term 'telicity' to refer to potential endpoints of verbs and predicates, or 'situation aspect' (Smith, 1991), while

[8] For example, the following verbal Aktionsarten have been proposed for Russian: absorptive, attenuative, comitative, durative, frequentative, inchoative, resultative, semelfactive, terminative, totalizing, unitary completive. Each Aktionsart is argued to make a distinct semantic contribution and is often associated with a particular morphological marker, such as a prefix (Klein, 1995; Binnick, 1991 and references therein).

'boundedness' will be used as a synonym of 'viewpoint aspect' (Smith, 1991) to refer to actual endpoints (see Section 3.2 below).

The classification of verbs proposed in Vendler (1957) is perhaps the one most widely cited in connection with the discussion of verbal lexical aspect, and the majority of studies investigating the encoding of lexical aspectual distinctions cross-linguistically assume essentially Vendlerian (occasionally with some minor modifications) groupings of verbs into aspectual classes based on telicity (see Section 3.3 and references therein). Section 3.1.1 below discusses Vendler's (1957) quadripartition of predicates into states, activities, accomplishments, and achievements in more detail; however, it is important to preface this discussion with a note that telicity-based classifications of verbs had existed in the literature prior to Vendler (1957). For example, a comprehensive historical overview of literature on aspect offered in Kabakčiev (2000) surveys a number of scholarly works by Russian linguists in which the notion of telicity plays a crucial role: Vinogradov's distinction between telic and atelic verbs in Russian (a distinction argued to be necessary apart from the perfective-imperfective opposition) appeared as early as in the 1940es; soon after Vinogradov, telicity-based classification of verbs was proposed for English by Voroncova, who divided verbs into three groups: telic, atelic, and "verbs of mixed lexical character" (qtd. in Kabakčiev, 2000: 19). This tripartite classification further resurfaced in the early 1960s in work by Ivanova, who maintained the telic and atelic classes and substituted the term "verbs of dual aspectual nature" for the third class of English verbs (qtd. in Kabakčiev, 2000: 21). On a larger scale, telicity-based contrasts between Vendlerian activities, on the one hand, and accomplishments and achievements, on the other hand, can be traced back to the fundamentals of Aristotelian distinctions

between *energiai* and *kinesis* and the idea that the meanings of some verbs involve a reference to an end or a result, while the meanings of other verbs do not (Binnick, 1991: 189).

### 3.1.1 Vendler (1957)

Vendler distinguishes, rather descriptively, four groups of verbs according to their relationship to time. These groups, referred to as "time schemata" or "species of verb," include states, activities, accomplishments, and achievements. The class of stative terms, or simply states, includes verbs like *know*, *love*, *want*, whose main characteristic is that they last for a period of time. These predicates do not refer to actions, i.e. they "do not indicate processes going on in time, yet they may be predicated of a subject for a given time with truth or falsity" (p. 146). Another Vendlerian class is activities, or "processes going on in time" which "consist of successive phases following one another in time" (p. 144). Examples of activities include verbs like *run*, *walk*, and *swim*. These verbs can be modified with durative expressions, such as "for how long". States differ from activities, as well as from the remaining classes, in that they cannot be used with continuous tenses (p. 148) and do not combine with adverbs *deliberately* or *carefully* (p. 149). The third class includes accomplishments, which "imply the notion of unique and definite time periods" (p. 149), e.g. *run a mile*, *walk to school*, or *recover from illness*. The difference between activities and accomplishments is tied to the notion of a terminal point, present only for the latter group: "while running or pushing a cart has no set terminal point, running a mile and drawing a circle do have a 'climax,' which has to be reached if the action is to be what it is claimed to be" (p. 145). While both types of actions go on in time, activities do so homogeneously, so that "any part of the process is of the same

nature as the whole," whereas accomplishments "proceed toward a terminus which is logically necessary to their being what they are" (p. 146). Finally, there is a family of achievement terms, or simply achievements, such as *win a race* or *reach the summit*. These predicates involve a terminal point but, unlike accomplishments, occur at a single moment and are thus not associated with time intervals.

Overall, Vendler's (1957) classification of verbs into types relies essentially on two key notions: the presence or absence of an endpoint and whether or not the predicate in question involves a process. The former criterion allows us to distinguish states and activities, which together form a larger class of atelic predicates, from the class of telic predicates to which accomplishments and achievements belong. The latter, process-based distinction is useful for drawing a line between states, which lack the processual component, and activities, which refer to processes. Similarly, within the telic class, we can differentiate between accomplishments, which involve a process that leads up to the culmination point, and achievements, which refer to instantaneous actions without the processual component.

Although Vendler's (1957) quadripartition of verbs, originally designed for English only, has received wide recognition and has been extended, often wholesale, to a number of languages, it has also not gone without criticism. One of the most important objections for the classification is lack of uniform behavior of verbs within a given class, in the sense that a given verb can belong to more than one class (and in some cases, to all four classes). For further criticism of the classification, see Timberlake (1985) and Verkuyl (1999), among others.

## 3.2 Viewpoint aspect

The second layer of the notion of aspect involves what is known as 'grammatical aspect,' 'viewpoint aspect,' or 'aspect proper.' This notion has for a long time been recognized as orthogonal to lexical aspect (at least in Slavic aspectology), and in many languages the category of aspect can be described independently of inherent semantic properties of verbal predicates. The term 'aspect,' etymologically derived from the root *spect-*, which means 'see' or 'view,' is a loan translation from the Slavic term *vid* (Russian for 'view'), also etymologically cognate with words *view* and *vision* (Binnick, 1991: 136). The term entered the English language in the early nineteenth century from Slavic grammars, where it had been used by various authors since at least the seventeenth century to refer to a wide range of phenomena related to the encoding of temporality, occasionally including tense, until Nicolai Greč made a tense-independent distinction between the two aspects in 1827 (Binnick, 1991 and references therein). Today, the term 'aspect' refers primarily to a grammatical category known as 'viewpoint aspect' and identifies the level of aspectual meanings conceptually distinct from lexical aspect.

Viewpoint aspect signals different ways of viewing situations: a situation may be viewed *perfectively*, as a completed whole, from the outside, or *imperfectively*, as ongoing, incomplete, or otherwise not distinctly bounded, as if from the inside (Comrie, 1976; Dahl, 1985; Smith, 1991; Binnick, 1991; Svenonius, 2004, *inter alia*). Consider, for example, the following sentences from Russian, where the perfective-imperfective aspectual contrast is expressed overtly through verbal morphology:

(111) a. Ona **pisala** dissertatsiju.
she wrote.IMP dissertation
'She was writing a dissertation'

b. Ona **napisala** dissertatsiju.
she wrote.PFV dissertation
'She wrote a dissertation'

The two sentences differ in the aspectual form of the verb 'wrote': *pisala* in (111) (a) is imperfective, while *napisala* in (111) (b) is perfective. As a result, the sentences have different interpretations: while (111) (a) presents an internal perspective of the event, for example by describing an activity in which the author of this text is currently engaged, (111) (b) is only possible when a reference is made to a completed dissertation.

The perfective-imperfective aspectual contrast in viewing situations is sometimes discussed in relation to the presence or absence of endpoints: perfective aspect presents the situation viewed as a single whole and includes its endpoints, while imperfective aspect views the situation as an interval and excludes its endpoints (Smith, 1991; Bardovi-Harlig, 2000). Yet, despite that fact that reference to endpoints is essential in both realms of aspectual meanings, the notion of viewpoint aspect is conceptually distinct from telicity (lexical aspect), although close interactions between the two categories are a topic of much research cross-linguistically (see Section 3.3 below). In the words of Binnick (1991: 191), (a)telicity and (im)perfectivity "are not properties of the same sort and hence are not applicable to the same sort of entity": the former notion applies to types of situations, while the latter represents individual events. Thus, a telic situation, such as *write a letter* in example (112) below, may be viewed perfectively or imperfectively,

depending on the choice of the speaker. In (112) (a), the situation is presented as completed (and the endpoint thus actualized), while (112) (b) presents the situation as on-going and hence incomplete (e.g., not having reached the potential endpoint).

(112) a. Alesha **napisal** pismo vchera.
Alesha wrote.PFV letter.ACC yesterday
'Alesha wrote a letter yesterday'

b. Alesha **pisal** pismo v shest' vechera.
Alesha wrote.IMP letter.ACC in six evening.GEN
'Alesha was writing a letter at 6 pm'

The perfective-imperfective contrast in Russian, exemplified in (111) and (112) above, is frequently taken to represent a prototypical aspectual system[9], a binary opposition between two viewpoints. Aspect in Russian (as well as other Slavic languages) is a grammatically salient category with an overt and obligatory morphological expression: every verb form, including non-finite forms, can be characterized as either perfective or imperfective. Because the perfective-imperfective contrast is marked on the verb, rather than elsewhere in the sentence, viewpoint aspect in Russian is often treated primarily as a verbal matter (see Verkuyl, 1999 for an overview and references). Although there is no single universally accepted definition of the perfective and imperfective aspects in Russian, there exist several diagnostics for perfective verbs in Russian (Schoorlemmer, 1995; Borik, 2006). Verbs in the perfective form do not receive ongoing interpretations in the present tense (instead, a future reference emerges with these forms), they cannot occur with verbs 'begin,' 'finish,' and 'continue'; finally, perfective verbs in Russian

[9] A notable exception to this view is Dahl (1985), who considers Slavic aspect typologically unusual.

cannot form present participles (e.g., *pisat'*.IMP 'write' – *pishushij*.PRES 'writing'; *napisat'*.PFV 'write' – **napishushij*.PRES). The first two properties of Russian perfectives are illustrated in (113) below with the pair of verbs *pisat'*.IMP and *napisat'*.PFV 'write':

(113) a. Pasha v dannyj moment pishet / *napishet pismo.
Pasha in given moment.ACC write.3.IMP write.3.PFV letter.ACC
'Pasha is writing a letter at the moment'

b. Misha zakonchil pisat' / *napisat' pismo.
Misha finished.PFV write.INF.IMP write.INF.PFV letter.ACC
'Misha finished writing a letter'

As a rule, the perfective verb forms are formed from the imperfective stems via prefixation (e.g., *pisat'*.IMP – *<u>na</u>pisat'*.PFV 'write'), which is by far the most productive strategy in the formation of perfectives in Slavic. However, there is no single and uniform aspectual marker for the formation of perfectives; instead, Russian has over twenty[10] perfective prefixes (Klein, 1995; Filip, 1999; Slabakova, 2005), up to sixteen of which can be compatible with the same verbal stem (although not all at the same time), producing a range of different meanings (Borik, 2006). The following example illustrates the process of forming perfective forms of the verb *pisat'* 'write' using prefixation, along with the English translations of the resulting forms (note the modifications in the lexical meaning of the verb):

[10] Twenty eight, according to the Russian Academy Grammar (Borik, 2002: 7).

(114) na-pisat' – to write (something)

pere-pisat' – to rewrite

do-pisat' – to finish writing

za-pisat' – to write down

po-pisat' – to write for a while

s-pisat' – to copy

o-pisat' – to describe

v-pisat' – to add in writing

vy-pisat' – to excerpt

nad-pisat' – to write above something

pro-pisat' – to prescribe

Apart from the existence of a large number of prefixes, the system is further complicated by the fact that most of the Russian prefixes are polysemous, such that there is a set of meanings associated with each form, sometimes referred to as 'senses' of a given prefix (Slabakova, 2005). These observations have led many scholars to analyze these prefixes as derivational morphemes (e.g., Filip, 1999: 176), rather than inflectional markers of perfectivity. In fact, Russian perfective prefixes do not attach exclusively to imperfective stems; they can also combine with perfective stems, such as *kupit'* 'buy,' adding a range of additional meanings to the base verb (the following example is adapted from Borik, 2006: 8):

(115) kupit' – buy

na-kupit' – buy a lot of something

do-kupit' – buy some more

o-kupit’ – compensate

skupit – buy all of something

Russian prefixes do not form a homogeneous group, but rather form various classes. Based on the distinction between qualifying and modifying prefixes, introduced in the work of Isacenko (1960) analyzed subsequently in Forsyth (1970), the distinction between lexical and superlexical (Smith and Rappaport, 1997; Ramchand, 2004) or internal and external (Slabakova, 2005) prefixes in Slavic has received the most attention[11]. For Isacenko (1960), qualifying prefixes are those that have a purely lexical function, while modifying prefixes represent a mixed lexico-grammatical class. Lexical prefixes bear a close resemblance to particles in Germanic languages; consider, for instance, the following examples (from Ramchand, 2004):

(116) a. v-bit’ knock in

b. vy-tyanut’ pull out

c. do-jti go as far as

d. za-vernut’ roll up

e. s-letet’ fly down

f. u-brat’ tidy away

The addition of lexical prefixes has consequences for the DP in object position (i.e., they may alter the argument structure of the verb by adding an argument). Also, these prefixes may change the lexical meaning of the verbal root. In contrast, superlexical prefixes, such

[11] A small potential third class of prefixes, the so-called purely inflectional perfectivizers, or prefixes devoid of any lexical content, are not included in the binary lexical-superlexical distinction, although Isacenko (1960) includes them in the modifying type. The very existence of such prefixes is a highly debated issue.

as those illustrated in (117) below, do not change the lexical meaning of the verb and have no effect on its argument structure; instead, they provide information about how the event progresses (examples adapted from Ramchand, 2004):

(117) a. na-brat' gather (lots of) something
b. po-pit' drink a little (attenuative)
c. za-plakat' burst into tears (inceptive)
d. do-citat' finish reading (terminative)

While both types of prefixes generally have a perfectivizing effect (i.e., they change the aspectual value of the predicate to which they attach to perfective), only lexical (internal) prefixes also affect the telicity value of the predicate, as well as its argument structure. Slabakova (2001, 2005) emphasizes these defining properties of internal/lexical prefixes, which constitute the majority of prefixes in Slavic, by referring to them as telicizing morphemes or preverbs.[12] In this approach, the fact that Slavic prefixes change the aspectual value of the verb to which they attach is viewed as a grammatical by-product, rather than their primary function.

As a further illustration of the distinction between internal prefixes (e.g., lexical *pro-*) and external prefixes (e.g., delimitative *po-*), consider sentences in (118) below.

(118) a. Misha chital (knigu).
Misha read.IMP book.ACC
'Misha was reading (a/the book)'

[12] The term is also used in Maslov (1984) to refer to verbal prefixes in non-Slavic languages. Note that many Indo-European languages have prefixes that can be compared with lexical prefixes in Slavic. Consider, for instance, the Latin *in-* in words *include*, *infuse*, *intrude* (example from Binnick, 1991: 138).

b. Sasha **pro**chital *(knigu).
Sasha read.PFV book.ACC
'Sasha finished reading a/the book'

c. Pasha **po**chital (knigu) (i zasnul).
Pasha read.PFV book.ACC and fell asleep.PFV
'Pasha read (a/the book) for a little while (and fell asleep)'

The verb *chital* 'read' in (118) is in the imperfective form. The lexical prefix *pro-*, added in (118) to the imperfective stem, produces the perfective form *prochital*, which also has a telic interpretation. Note also the addition of the prefix affects the argument structure of the verb: *prochital* cannot be used intransitively and requires a direct object, such as *knigu* 'book'. In (118), however, the perfective form *pochital* 'read (for a little while)' does not produce a telic interpretation of the predicate and does not impose restrictions on the intransitive use of the verb.

Slabakova (2005) summarizes the key distinctions between internal and external prefixes as follows: only internal prefixes affect the argument structure and/or lexical semantics (aspectual class) of the verb; external prefixes must precede internal prefixes; internal prefixes are closer to the root and, unlike external prefixes, cannot be iterated and cannot co-occur; and finally, in the presence of multiple prefixes, only one (internal) prefix will pertain to event endpoint, while others (external) will modify the predicate's meaning akin to adverbial modification. A similar overview is given in Svenonius (2004), who compares lexical prefixes in Russian to particles in Germanic languages based on a number of shared properties: for example, they both have resultative and spatial meanings, which are often idiosyncratic. Svenonius (2004) further makes a syntactic

distinction between lexical and superlexical prefixes: lexical prefixes originate inside the VP, while superlexical prefixes behave more like adverbs, exhibit aspectual properties related to quantification, and originate in syntactic positions outside the VP.

It is likely that the existence of two distinct classes of perfectivizing prefixes in Slavic, each with its own set of properties, has contributed significantly to the controversy surrounding the issue. Lack of consensus among scholars regarding the derivational or inflectional nature of Slavic prefixes has stirred a vigorous theoretical debate about the status of aspect in Slavic languages, and particularly in Russian, as a lexical or grammatical category. On the other side of the debate, Russian perfective prefixes are taken to be markers of grammatical aspect (Borik, 2006; Pereltsvaig, 2008; Smith, 1991; Forsyth, 1970), perhaps with additional lexical idiosyncrasies. This view is commonly cited as the standard position in Slavic aspectology. An alternative position, defended in Brecht (1985), Comrie (1976), Filip (1999), Verkuyl (1999), Slabakova (2005), *inter alia*, posits that Slavic perfective prefixes do not have clear inflectional characteristics and instead reflect lexical aspect distinctions, albeit with an additional grammatical effect. Yet a third point of view on the subject is expressed in Filip (2003), who proposes that "a prefixed perfective verb in Slavic languages is best seen *as a new verb* that stands in a derivational relation to its base," thus viewing prefixed perfectives as altogether distinct lexemes, rather than an aspectually different form of the same lexeme (p. 75, *italics added*). The on-going debate about the status of aspectual prefixes in Russian is a logical continuation of a larger problem about the relationship between lexical and grammatical aspects in Slavic: along with studies that treat them as distinct phenomena (Thelin, 1990; Smith, 1991; Filip, 1999; Dickey, 2000; Borik, 2006;

Richardson, 2007), an alternative view is sometimes expressed that they do not constitute separate phenomena and are best treated uniformly (Brecht, 1985; Bohnemeyer and Swift, 2004; Schoorlemmer, 1995, *inter alia*).

Forsyth (1970: 18) classifies Russian perfective prefixes into three categories. The first category consists of prefixes which produce "a lexical derivative," i.e. essentially a new verb that denotes an action different from that denoted by the original verb, such as *brat'* 'take' – *vybrat'* 'choose.' Prefixes in the second class are used to form so-called procedural forms: they leave the original meaning of the verb unaltered, instead adding the indication of how the action proceeds (i.e., expressing a particular Aktionsart), e.g. *chitat'* 'read' – *perechitat'* 'reread,' 'read again.' The third class consists of prefixes that are purely grammatical in nature, i.e. they do not add a new lexical meaning or a new nuance to the existing meaning of the verb, as in *pisat'*.IMP 'write' – *napisat'*.PFV 'write.' Instead, they are used "merely to convert the simple imperfective into a perfective with identical lexical meaning" (Forsyth, 1970: 19). Overall, then, it appears that all three positions with respect to the status of Russian prefixes summarized above are empirically justified. However, because the empirical facts themselves are rather complex, even those analyses that are based on undeniable facts may come close to making sweeping generalizations and, in the words of Slabakova (2005), sometimes end up throwing the baby out with the bath water by focusing only on a portion of such facts.

Apart from prefixation, the perfective aspect in Russian may be formed through other means, although in a much less productive way. First, although the overwhelming majority of simplex or nonderived verb forms (i.e., forms without a prefix) are imperfective in Russian, there is small class (about thirty) of simplex verb forms that are

perfective (Klein, 1995: 670). These verbs denote bounded actions despite absence of any overt perfectivizing morphology (Dahl, 1985), for example *dat'* 'give.' Next, perfectives can be formed via stress shift (*srezAt.*'IMP – *srEzat.*'PFV 'cut'), suffixation (*prygat'*.IMP – *prygnut'*.PF 'jump'), or suppletion (e.g., *govorit'*.IMP – *skazat.*'PFV 'say'). There is also a very small number of biaspectual verbs (or verbs of dual aspect), such as *velet'* 'command' or *rodit'* 'give birth,' which are ambiguous between perfective and imperfective readings and can be interpreted as either one or the other, depending on the context (Forsyth, 1970; Dahl, 1985; Binnick, 1991; Klein, 1995). In addition to biaspectual verbs, there are monoaspectual verbs that exist without an aspectual counterpart; these forms are known as *perfectiva tantum* and *imperfectiva tantum*[13] (Maslov, 1984; Brecht, 1985; Klein, 1995).

In addition to being the default aspectual form for the majority of verb stems, the imperfective aspect can also be formed morphologically through suffixation, particularly with suffixes *-va-*, *-iva-*, and *-yva-*. Imperfectives of this type are known as derived imperfectives or secondary imperfectives (Forsyth, 1970; Binnick, 1991), because in the majority of cases they are formed from already derived perfectives (i.e., perfectives formed through prefixation). Unlike prefixation, which has been analyzed in various approaches as a lexical, grammatical, or mixed lexico-grammatical process, suffixation in the formation of secondary imperfectives in Russian is indisputably taken to be a purely grammatical process, and the suffixes employed in the process are rather universally referred to as "empty" inflectional morphemes (Forsyth, 1970), devoid of additional

[13] Cf. English *pluralia tantum* nouns such as 'scissors' and 'trousers,' which only occur in the plural form, and *singularia tantum* nouns such as 'information,' which, on the contrary, exist without a plural counterpart.

lexical meaning. Thus, with the exception of *napisat'*.PFV 'write,' which contains an arguably 'empty' perfective prefix *na-*, all remaining derived perfective verbs in (114) above can undergo secondary imperfectivization without changes in lexical meaning.

Consider the following three forms of the verb *chitat'* 'read':

| | | | | |
|---|---|---|---|---|
| (119) | chital | → | **pere-**chital | → pere-chit-**yva**-l |
| | read.PST.IMP | | reread.PST.PFV | reread.PST.IMP |
| | 'read/was reading' | | 'reread' | 'was rereading' |

In (119), the simplex imperfective verb becomes perfective with the addition of the prefix *pere-*, which also restricts the lexical meaning of the verb. The derived perfective form is then imperfectivized with the suffix *-yva-*, without changes in lexical meaning. Secondary imperfectives are not limited to perfective stems; they can also be formed from simplex imperfectives, although in considerably more restrictive contexts (e.g., habitual contexts in the past tense):

| | | | | |
|---|---|---|---|---|
| (120) | a. | chital | → | chityval |
| | | read.PST.IMP | | read.PST.IMP |
| | | 'read' | | 'used to read on many occasions' |
| | b. | xodil | → | xazhival |
| | | went.IMP | | went.IMP |
| | | 'went' | | 'used to go on many occasions' |

Forms like *chityval* and *xazhival* in (120) above are known as frequentative verbs (Forsyth, 1970: 28; Leinonen, 1982: 225), which express habitual action in the past. These forms are perceived by native speakers as acceptable, but highly marked choices in

conveying past habitual or iterative meanings. Borik (2006: 9) notes that they have "a bit of 'memoir' flavor."

So far we have considered the notions of lexical aspect and viewpoint aspects as independent categories. Having made this principled distinction, we now turn to the following section, where the two concepts are examined in relation to each other.

### 3.3 Lexical and Viewpoint Aspects at the Cross-Roads

While lexical and viewpoint aspects have for a long time been recognized as separate categories, the two notions have also been shown to be closely intertwined. An abundantly rich body of cross-linguistic research conducted in the last thirty-five years, including work on first and second language acquisition, as well as on the acquisition of pidgin and creole languages, has provided ample evidence in support of the idea that verbal inflectional morphology in language development initially encodes inherent lexical properties of verbs, rather than grammatical categories of tense and/or aspect (Antinucci and Miller, 1976; Bronckart and Sinclair, 1973; Bloom, Lifter and Hafitz, 1980; Andersen and Shirai, 1996; Andersen, 2002; Bardovi-Harlig, 2000; Bickerton, 1975; see, e.g., Rohde, 1996 for further overview and references). The following section of this chapter provides an overview of the relevant literature from first and second language acquisition, where the acquisition of viewpoint aspectual contrasts has been linked to lexical classes of predicates. I conclude the chapter with a detailed discussion of existing studies on aspect in heritage Russian, where the occurrence of aspectual morphology is also examined in relation to inherent aspectual properties of verbs.

### 3.3.1 First Language Acquisition

Over thirty years ago, researchers on child first language acquisition observed a correlation between inherent verbal lexical aspect and the occurrence of tense (Bronckart and Sinclair, 1973) and aspect (Antinucci and Miller, 1976) morphology in children's production data. The results reported in Bronckart and Sinclair (1973) and Antinucci and Miller (1976) were replicated in Bloom, Lifter and Hafitz (1980), who found that early English-speaking L1 learners used past tense marking predominantly with telic verbs (accomplishments and achievements) and the progressive aspect *(-ing* forms) with activity verbs. This correlation was studied extensively during the 70s and 80s in other developing L1 systems, producing a body of work which has ultimately led to the formulation of a proposal currently known as the Aspect Hypothesis.

In its most general sense, the Aspect Hypothesis is best viewed as a family of hypotheses related to the acquisition of temporality in developing grammars. One specific proposal in this family relates the acquisition of grammatical markers of temporality to the lexical aspectual properties of verbs. This version of the Aspect Hypothesis is called the Lexical Aspect Hypothesis (LAH). According to LAH, verbal inflections in early language development are influenced by lexical aspectual meanings inherent in the verbs. Another version of the Aspect Hypothesis focuses on the sequencing of grammatical markers in the acquisition process. The claim that the appearance of aspect markers precedes the appearance of tense markers in emergent linguistic systems is known as the Primacy of Aspect (POA) Hypothesis (also referred to as the Defective Tense Hypothesis). In what follows, I will focus primarily on LAH, which pertains most closely

to the present discussion of the interactions between lexical and grammatical aspects in developing grammars.

Lexical aspect has been shown to play a role in the acquisition of verbal morphology in a variety of languages, including English, French, Italian, Polish, Russian, Mandarin, Japanese, Greek, and Turkish. For example, a recent study by Stoll (2001) showed that verbal temporal semantics, and particularly telicity, plays an important role in the acquisition of Russian aspect from the earliest stages. The telic-atelic distinction has been argued to be "one of the most important semantic distinctions in the child's system of lexical representation" (Weist, 2002). One possible explanation for the observed lexical-grammatical correlation has been based on prototype theory. The prototype account (Shirai and Andersen, 1995; Andersen and Shirai, 1996; Shirai, 2002; Andersen, 2002) employs the notion of a prototype, developed originally in analyses of human categorization in cognitive psychology, to capture the idea that certain members of a given category may be more basic, or prototypical, than others. Linguistic categories such as 'past tense' or 'progressive aspect' have an internal structure that consists of basic and peripheral properties, and the acquisitional sequence for these properties is predicted to follow from most to least prototypical (Shirai, 2002). For instance, the concept for progressive aspect is presented as follows, from most to least prototypical contexts: "Process (activity → accomplishment) → iterative → habitual or futurate → stative progressive" (Andersen and Shirai, 1996: 557-558). Shirai and Andersen (1995: 759) explain that "initially children restrict their use of tense/aspect inflections to the prototype of the category, then gradually extend the category boundary, and eventually

acquire the adult norm," predicting that the earliest occurrence of progressive marking in child data will be attested with activities, and the latest with states.

Various motivations have been offered as potential reasons for the preference towards the most prototypical clusters of properties in early developmental stages. Some of the earliest studies on L1 acquisition (e.g., Bronckart and Sinclair, 1973, *inter alia*) attributed the emergent link between grammatical properties and certain lexical classes of verbs to certain cognitive constraints or deficits during initial stages of language learning. Subsequent studies on L1 acquisition, as well as emerging literature on L2 acquisition, where similar patterns were discovered with cognitively mature adult learners (Section 3.3.2 below), provided compelling challenges to what Salaberry (2000: 38-39) refers to as "Piagetian," i.e. cognitive-deficit explanations of LAH, in favor of alternative, linguistically-motivated accounts. A more sustainable explanation has come to be known as the distributional bias hypothesis (Andersen, 2002), according to which the correspondences between certain verbal lexical properties and grammatical morphology in a developing grammar reflect (albeit in a much more categorical way) quantitative properties of the linguistic input available to language learners, in which these correspondences also are manifested, in a less absolute way, through a skewed distribution of grammatical markers.

### 3.3.2 Second Language Acquisition

Multiple findings in support of the Aspect Hypothesis in L1 acquisition literature sparked a lively debate about the interpretation of these findings, which has eventually made its way into the realm of second language acquisition (SLA) research. For example, Andersen (1991) examined evidence from English-speaking learners of Spanish as an L2

and established that L2 learners adhered to the patterns predicted by LAH in their acquisition of the Spanish preterite-imperfect contrast: first, the preterite morphology occurred with achievements, then with accomplishments, activities, and finally states. Learners of Italian, German, and English in Giacalone-Ramat's (2002) survey are also shown to follow the pattern predicted by LAH and thus support the general hypothesis.

Several formulations of the Aspect Hypothesis have been offered to accommodate the findings on the issue in L2 acquisition literature. Andersen's (1991: 307) early formulation of LAH for L2 acquisition, which I will label as a strong version of the hypothesis, maintained that "in the beginning stages of language acquisition only *inherent aspectual* distinctions are encoded by verbal morphology, not tense or grammatical aspect." In order to account for the empirical findings that showed some evidence of grammatical marking early on and in an attempt to make room for additional factors, other than the inherent aspect, to interact with the tense-aspect morphology (e.g., discourse factors), this formulation was subsequently revised into a less restrictive proposal. For example, Andersen and Shirai (1994) posit a less categorical association between lexical aspect and grammatical expression of temporality by not juxtaposing the two notions: "[f]irst and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with … these verbs" (qtd. in Bardovi-Harlig, 2000). Andersen (2002) further maintains that the explanation for the observed patterns in L2 acquisition adheres to the distributional bias principle: just like L2 learners, "[a]dult native speakers also tend to associate certain verb classes with particular relevant and congruent grams[14] in their

[14] grammatical markers, such as an inflection or an auxiliary (Andersen, 2002: 90).

discourse in partial conformance with the Aspect Hypothesis." Unfortunately, it is difficult to evaluate the explanatory component of the distributional bias hypothesis in relation to L2 acquisition, because this would require analyses of the exact linguistic input that L2 learners receive (such as foreigner-directed speech addressed to learners). Literature overview in Slabakova (2001) includes references to a sustainable body of empirical data on distributional properties of input in L1 acquisition (e.g., motherese), but brings attention to a shortage of similar studies in the context of L2 learning.

Andersen (2002: 91) explores a possibility that more general universal principles ("cognitive and discursive reasons") may be responsible for the preference towards the most prototypical verb-gram combinations in both types of data;[15] similarly, Andersen and Shirai (1996: 548) posit the influence of "strong cognitive or linguistic universals … in acquisition and use of verbal morphology." Here, reference is made not to cognitive constraints presumably operative in early stages of child language development (cf. Bronckart and Sinclair, 1973), but rather to linguistic universals related to a possibly innate component responsible for the acquisition of grammar, also discussed in Bickerton (1977, 1999) in relation to creole languages.

### 3.3.3 Heritage Language Acquisition

Heritage grammars have proven to be a vast resource for current linguistic work on aspect (Silva-Corvalán, 1991, 1994, 1995; Polinsky, 1996, 2009; Montrul, 2002, 2009; Pereltsvaig, 2002, 2008; Jia and Bayley, 2008; Bar-Shalom and Zaretsky, 2008, *inter*

[15] The distributional bias explanation for the observed LAH effects in L1 acquisition data finds parallels in work by Bohnemeyer and Swift (2004), who analyze data from German, Russian, and Inuktitut to argue that there is a cross-linguistic preference for atelic predicates to be presented from an imperfective viewpoint, while telic predicates tend to co-occur with perfective viewpoints.

*alia*), although the body of existing work on heritage language acquisition in general pales in comparison with the volume of research on the development of monolingual L1 and L2 grammars. This section surveys some of the existing literature on the encoding of aspectual contrasts in heritage grammars across languages. The last three subsections provide a detailed chronological overview of the relevant previous work on heritage Russian, with a specific focus on several studies which examined aspectual morphology in relation to lexical aspect. Overall, it appears that many HLA researchers have drawn explicit connections between the occurrence of aspectual morphology in heritage languages and the semantic properties verbs (lexical classes or telicity), suggesting that the predictions of LAH, discussed above for monolingual L1 and L2 acquisition, generally seem to be applicable to heritage language development. However, it is also important that not all studies find lexical aspect effects in the use of viewpoint aspect morphology by heritage speakers, and studies that do find a correlation do not always agree on the explanations for the findings. Thus, more detailed investigations of the link between telicity and viewpoint aspect could be especially valuable in helping create a more consistent picture of the findings currently available, as well as shed light on previously unexplored territories, still abundant on the recently discovered continent of HLA.

Silva-Corvalán's (1991, 1994, 1995) pioneering work on intergeneration loss of Spanish in the US provides evidence in support of the Aspect Hypothesis in the context of heritage language development. In examining preterite-imperfective aspectual contrasts in production data from three generations of bilingual Spanish-English speakers, including Spanish heritage speakers, Silva-Corvalán finds systematic patterns

of loss of verbal categories, which she groups into seven implicationally ordered stages. Loss of verbal morphology throughout the stages of language loss are shown to be linked to verbal aspectual classes in a way similar to what earlier studies observed for the acquisition of aspectual marking, leading Silva-Corvalán to suggest that the attrition of verbal morphology mirrors the development of verbal categories in L1 and L2 acquisition and in creole languages, where lexical aspect distinctions also play an important role (Silva-Corvalán, 1994).

Incomplete acquisition and attrition of tense-aspect distinctions in heritage Spanish is further examined in Montrul (2002), who found that heritage speakers differed from monolingual Spanish speakers not only in their use but also in comprehension of tense-aspect morphology. Production and interpretation tasks revealed specific difficulties faced by heritage speakers, related to the use and interpretation of aspectual forms with verbs of different aspectual classes. Spanish heritage speakers diverged from the native speaker control group in their use and comprehension of preterite morphology with stative verbs. Difficulties with achievements in the imperfective were also attested for this group. More generally, meaning combinations characterized by mismatches between lexical and grammatical aspect proved to be particularly problematic for heritage speakers. Based on findings of previous studies of L1 and L2 acquisition of Spanish preterite-imperfective morphology, the same contexts had also been proven problematic for early L1 and L2 language learners. In Spanish, the acquisition of the preterite generally precedes the mastery of the imperfect. Preterite morphology is used first with verbs in telic classes (accomplishments and achievements) and eventually spreads to other classes. In contrast, the imperfect morphology appears initially with atelic classes

(states and activities) and only then spreads to accomplishments and achievements (Montrul, 2002: 60). Overall, then, Silva-Corvalán's (1991, 1994) conclusions about parallels between heritage acquisition and L1 and L2 language development are corroborated.

In a different study, Jia and Bayley (2008) examine the (re-)acquisition of perfective aspect marker *-le* by Chinese heritage learners. Drawing on data from three tasks (narration, a multiple choice cloze test, and a forced choice picture description task), the authors investigate potential links between grammatical and lexical features in children's use of the perfective marker. In contrast to other studies on language development, including L1, L2 and HL acquisition, which reported a significant correlation between grammatical morphology and verbal lexical classes, Jia and Bayley (2008) did not find lexical aspect to be a significant factor in the use of *-le*. This finding also contrasts with some earlier findings on the acquisition of the perfective marker in Chinese, which had been linked to lexical aspect and inherent verb meanings. For example, one study on L2 acquisition of *-le* cited in Jia and Bayley (2008) documented a high rate of correct use of the marker with verbs with built-in inherent endpoints. This pattern did not, however, emerge in heritage language acquisition.

Work on the restructuring of the aspectual system in Russian by Maria Polinsky has provided important insights into the nature of aspectual reorganization in basilectal heritage grammars of Russian and sparked considerable interest in and attention to the problem in subsequent studies. Although Polinsky's work has been focused on low-proficiency speakers, whose grammatical systems stand in sharp contrast with the grammars of baseline varieties, the findings of this line of research are of primary

importance to the study of the aspectual system in other varieties of heritage Russian, where divergence from native speaker norms may be less dramatic (such as the acrolectal varieties examined in the present study). In tandem, these data can offer important insights into the directionality of grammatical development in the context of HLA and reveal possible stages and phases in the restructuring of the aspectual systems, possibly correlating with sectors on the proficiency continuum (one such model is presented in (170) in Chapter 6). The following section summarizes the key tenets and findings of Polinsky's work on heritage Russian aspect; additional studies on the subject are surveyed below.

#### *3.3.3.1 Polinsky (1996, 1997, 2006a, 2007, 2009)*

Based on production data from basilectal speakers, Polinsky (1997) argues that the perfective-imperfective opposition is essentially lost in HR. Low-proficiency heritage speakers no longer make distinctions between the two aspectual forms of the verb; instead, verbs are retained in a single and invariable aspectual form, either perfective or imperfective. Polinsky (1997) refers to this process as lexicalization, and aspectual forms attested in the data from heritage speakers are analyzed as lexicalized (unpaired) perfectives or lexicalized imperfectives. This outcome depends on telicity, defined in terms of verbal lexical classes: "verbs of achievement and accomplishment are clearly favored in the perfective form …; verbs that do not imply a natural limit, such as processes and states, are lexicalized in the imperfective form" (Polinsky, 1997: 384). The following examples are further provided to illustrate the use of telic verbs (achievements and accomplishments) in the perfective forms: *sdelat'*.PFV 'do,' *smoch*.PFV 'be able to,' *napisat'*.PFV 'write,' *prochitat'*.PFV 'read,' *otdat'*.PFV 'give,' *vzjat'*.PFV 'take'. One

example of an atelic verb used in the imperfective is provided: *razreshat'*.IMP 'allow' (Polinsky, 1997: 384).

A more detailed discussion of the lexicalization process, with more empirical data, is offered in Polinsky (1996). First, effects of aspectual lexicalization are observed on a translation task performed with heritage speakers in order to estimate and measure their language proficiency. In this task, the speakers were presented with a list of 100 basic vocabulary words (the Swadesh list) in English. Among other items, the list included 18 verbs: *drink*, *eat*, *bite*, *see*, *hear*, *know*, *sleep*, *die*, *kill*, *swim*, *fly*, *walk*, *come*, *lie*, *sit*, *stand*, *give*, and *say*. The speakers were asked to translate the words into Russian, and the number of correct translations was subsequently taken as a measure of the speaker's proficiency in Russian, calculated numerically: one point was deducted for each incorrect translation (or a blank answer), and half a point was deducted for an incorrect grammatical form of the word in translation, assuming the root was correct (e.g., a singular noun translated as plural). Incorrect forms also included incorrect citation forms of the word. For example, the citation form for nouns in Russian is a singular form in the Nominative case; for adjectives, a singular Nominative Masculine form is typically used. For verbs, the imperfective infinitive form is universally accepted as the correct verbal citation form. Speakers of heritage Russian, however, produced verbs on the list in a variety of forms, such as the infinitive, first person singular, third person singular, and imperative. Most importantly, heritage speakers demonstrated variation between perfective and imperfective forms (although no control group of monolingual speakers was used, the assumption was that speakers of baseline Russian would invariably use the imperfective forms). Deviations from the imperfective standard were taken to be

indicative of lexicalization of aspect for these speakers. Verbs 'die', 'kill' and 'say' only occurred in perfective forms: all of the eighteen speakers in the study used *umeret´*.PFV instead of *umirat´*.IMP 'die,' *ubit´*.PFV instead of *ubivat´*.IMP 'kill', and *skazat´*.PFV rather than *govorit´*.IMP[16].

The phenomenon of lexicalization in the aspectual domain is described in Polinsky (1996: 52) as "the replacement of the perfective/imperfective opposition by the opposition of telic versus atelic verbs." One outcome of this process is the absence of aspectual pairs in heritage Russian. When a perfective form of a verb is retained along with its imperfective counterpart, the two forms are said to be retained as separate entities. In the majority of cases, however, low-proficiency heritage speakers only retain one verb form, perfective or imperfective, for any given form. The other form is said to be lost. This leads to a reduction in the number of aspectual forms available to heritage speakers, a trend fully consistent with the more general tendencies towards lexicon reduction in heritage languages. Retention of one form in favor of the other is further hypothesized to be correlated with the frequency in the input.

Polinsky (1996) assumes Vendlerian classification of verbs into those of achievement, accomplishment, process, and state. However, based on the examples provided, the assignment of verbs into classes does not always seem to coincide with the classification typically assumed in other studies on lexical aspect: note, for instance, that

[16] Note, however, that the imperfective form *govorit'* is somewhat closer in translation to the English word 'speak' than to the target word 'say.' Here, the perfective-imperfective contrast in Russian is formed through suppletion, and the two items *skazat'-govorit'* behave like separate lexemes much like 'say' and 'speak' in English. Since 'say' was the target item, *skazat'* may in fact be a better match in translation. Elicitation of some items of the Swadesh list from full speakers of Russian residing in Russia further reveals that the verb *say*, as well as punctual achievement verbs such as *die* and *kill* also occur in perfective citation forms. Thus, aspectual marking with some achievement verbs in HR seems to parallel the general tendencies already observed in the baseline variety.

the list of accomplishments and achievements below includes verbs like *write*, *read* or *stand*, which can possibly be analyzed as activities, and *know*, which is typically treated as a stative verb. The list of verbs in (121) includes the full list of the examples given in Polinsky (1996: 53) of verbs consistently favored in the perfective form, collected from oral production. Additional examples from the Swadesh list are in (121). All verbs are labeled as verbs of achievement and accomplishment.

(121) a. *do, be able to, write, read, give, take*

b. *know, die, kill, lie (*as in *lie down), stand, give, say, burn*

In contrast, verbs lexicalized in the imperfective are those "that do not imply a natural limit, such as processes and states" (Polinsky, 1996: 54). Three examples of lexicalized imperfectives are presented in the study: *hang*, *hide*, and *like*.

Sentences (122) and (123) below, from Polinsky (1996: 54), illustrate the use of perfective forms by heritage speakers in place of imperfectives in oral production. Example (124) presents an instance of the opposite trend (here, the speaker is describing a short visit to Princeton).

(122) a. *American Russian*

| | | | | |
|---|---|---|---|---|
| ja nikogda ne | **prochital** | ta | kniga | |
| I never NEG | read.PFV | that.NOM | book.NOM | |

b. *Full Russian*

| | | | |
|---|---|---|---|
| ja nikogda ne | **cital** | tu | knigu |
| I never NEG | read.IMP | that.ACC | book.ACC |

'I have never read this book.'

(123) a. *American Russian*

ego otets snachala on **otdal** ego den'gi i potom on ne **otdal**

his father first he gave.PFV him.ACC money and then he NEG gave.PFV

'His father was first ready to give him the money and then he changed his mind.'

b. *Full Russian*

ego otec snachala **daval** / **otdaval** emu den'gi {…}

his father first gave.IMP gave away.IMP him:DAT money.ACC

'His father was first ready to give him the money …"

(124) a. *American Russian*

mne **nravilos'** v Princeton no ja ljublju zhit´ v Chicago

me.DAT liked.IMP in Princeton.NOM but I like.IMP live.IMP.INF in Chicago

'I liked Princeton but I would prefer to live in Chicago'

b. *Full Russian*

mne **ponravilos'** v Prinstone {…}

me.DAT liked.PFV in Princeton

'I liked Princeton ...'

Overall, Polinsky's (1996) proposal regarding the lexicalization of aspectual distinctions in heritage Russian makes an important contribution to the research on grammatical restructuring in heritage grammars. Further, preliminary evidence is presented to suggest that the predictions of the Aspect Hypothesis, proposed initially to account for interactions between grammatical marking of aspect and inherent lexical properties of verbs in early L1 and L2 grammars as well as in creole grammars, may be applicable in heritage language acquisition. This emerging connection highlights important parallels

between different types of developing linguistic systems; these similarities, in turn, open yet another window into the study of those principles of language development that a growing body of research perceives as universal.

Further discussion of the lexicalization hypothesis is provided in Polinsky (2006a), who reiterates the idea that most verbs in heritage Russian are kept in one aspectual form, and that the choice of the form depends "partly on telicity and partly on the relative frequencies of individual aspectual forms in the input." A more extensive list of examples of lexicalized perfectives (125) and lexicalized imperfectives (125) is provided:

(125) a. *be born, die, kill, give, take, can, read, see, begin, stop, find, make, eat, say*

b. *grow, stay/stand, go, walk, run, sit, cry/weep, sleep, live, love, sing*

To supplement existing examples from spontaneous production and the Swadesh list task, Polinsky (2007) examines the occurrence of aspectual markers in heritage language narratives. Using a book of pictures visually telling a story of a boy looking for his pet frog (the so-called frog-story frequently used in acquisition studies), Polinsky (2007) elicits narratives from two heritage speakers of Russian, a nine-year old and a twenty-three year old. The narratives contain some aspectual errors, making it possible to test the predictions of the lexicalization hypothesis: 3 wrong forms are found in the narrative from the younger speaker and 11 errors with aspect are attested in the adult's

narrative. The following verbs are listed as those used in an incorrect aspectual form[17] in the two narratives (in all cases, the opposite value would be the correct one):

(126) PFV: *call*

IMP: *go, jump, sit, get up*

In subsequent discussion, the following explanations are offered: "if only one verb is maintained in American Russian, then it is the member of the aspectual pair that denotes a more common conceptualization associated with a given event." The frequency of a given conceptualization is further linked to telicity: "[i]f a more commonly occurring eventuality is the one that has an inherent limit, it is conceptualized as telic, and then the perfective form of the verb is more likely to be maintained." Events that lack an inherent limit in their most common conceptualization are maintained in the imperfective form, respectively. Polinsky (2007) discusses a possibility of predicting which form will be retained in heritage Russian based on frequencies of aspectual occurrences of the verb in the baseline language. This prediction is checked for 11 verbs: the aspectual form for these verbs used by heritage speakers is listed next to the most frequent aspectual form for these verbs in baseline Russian, based on a frequency dictionary. The comparison is summarized in (127) below (from Polinsky, 2007, 2009):

[17] Two additional examples illustrating the use of multidirectional verbs of movement instead of unidirectional verbs are given; however, these errors are not aspectual (i.e., the correct and incorrect forms are imperfective).

| (127) | *Event* | *Baseline Russian* | *Heritage Russian* |
|---|---|---|---|
| | cry/scream | IMP (394/1741) [18] | IMP |
| | call | IMP (428/1950) | IMP |
| | give | IMP (149/155) | PFV |
| | become | PFV (59/622) | PFV |
| | stay/stand | IMP (104/444) | IMP |
| | sit | IMP (143/343) | IMP |
| | take | PFV (132/419) | PFV |
| | lie down | PFV (259/1368) | IMP |
| | look for/search | IMP (646/6641) | IMP |
| | find | PFV (234/1197) | PFV |
| | jump | IMP (2994/7450) | IMP |

The question of frequency is further addressed in Polinsky (2009), who writes that "frequency alone does not always predict the retention of a particular form" (p. 16) and suggests that "some intermediary mediating factors may be at work." For example, data on frequency in adult language may not include tendencies that could be present in child-directed speech, which may prove to be more relevant for heritage grammars than generic frequency data reported for adult speech.

The 'big picture' of the issue of aspectual restructuring in heritage Russian, based on the author's observations over the years, is presented in Polinsky (2009), a paper

[18] Polinsky cites frequency data from Brown (1996); the aspectual form before the parentheses identifies the most frequent form, while the numbers in parentheses represent the specific frequency rankings for both aspectual forms, starting with the more frequent one. Note that a lower ranking number corresponds to a more frequent form – i.e., a word with a lower ranking can be thought of as being higher up on the list of the most frequent words, with the most frequent word being number 1.

dedicated specifically to loss and retention of aspectual forms in basilectal varieties of heritage Russian. In this account, considerably less emphasis is placed on telicity-based lexicalization. Instead, three predictions about the behavior of aspectual markers are offered. First, the representation of aspect is expected to be affected by impoverished morphology; hence, the more inflectional component of aspect marking, such as suffixation in the formation of secondary imperfectives, is predicted to be lost or overgeneralized in line with the general tendency towards the loss of inflectional morphology. Second, with respect to the more lexical (derivational) component of the aspectual system, such as verbal prefixes, heritage speakers are predicted to retain isolated forms, but on an item-by-item and often idiosyncratic basis. As a result, considerable individual variation is predicted with respect to which prefixes will be retained and with which verbs. Third, based on the assumption that semantic aspectual contrasts have an independent conceptual basis, alternative lexical or morphosyntactic means may emerge for expressing these distinctions in a heritage grammar.

All three predictions are addressed, based primarily on observation of spontaneous production, with one forced choice task. With respect to the first prediction, two examples are offered that illustrate the overgeneralization of the imperfectivizing suffix *-yva-*, producing forms that would be ungrammatical in the baseline (from Polinsky, 2009: 9):

(128) a. vsegda on zabyv**yv**aet ego veshi (baseline *zabyvaet*)
always he forgets.IMP his things
'He always forgets things'

b. eti doktory otmen**iv**ajut appointments (baseline *otmenjajut*)
these doctors cancel.IMP
'Such doctors cancel appointments'

Additionally, it is noted that forms with *-yva-* and its allomorphs continue to be used regularly by heritage speakers in ways that are consistent with the baseline grammar requirements, suggesting that the process of the formation of the imperfective is not lost. Instead, some regularization is observed with respect to the morphology used to encode imperfective meanings. Loss of less predictable imperfectivizing markers (e.g., suffix *-a-*, which is no longer productive even in the baseline grammar) is compensated for with overapplication of more regular forms such as *-yva-*. Similar patterns had been documented for child Russian (Stoll, 2001).

The proposal which connects the retention of a aspectual particular form to telicity (Polinsky, 1996, 2007) receives less support in Polinsky (2009: 11): "[w]hile this may still be a possibility… , it is definitely not the only relevant factor in the retention of one form over another. In particular, cross-speaker variation suggests that the survival of a particular form may also be determined by lexical idiosyncrasies, rather than principled grammatical constraints." In this view, the relationship between members of aspectual pairs in Russian is taken to be lexical, rather than inflectional (Polinsky, 2009: 20), and retention of one member at the expense of the other in a heritage grammar is viewed as a reflection of a more general tendency toward lexicon reduction. In the absence of aspectual contrasts between perfective and imperfective verbs, the retained forms are said to be underspecified for aspect altogether, i.e. to be stored as "verbal items without aspectual value" (p. 21).

Results of a forced-choice task, in which nine heritage speakers were presented with a choice between two members of an aspectual pair in three conditions (only the perfective form allowed, only the imperfective form allowed, and both forms allowed), showed that the subjects virtually did not discriminate between the two forms in either condition, performing essentially at chance. This pattern confirmed that low-proficiency speakers' difficulties with aspect are not limited to spontaneous production, but affect comprehension as well, and that basilectal varieties of heritage Russian may in fact exist, as the title of the paper suggests, "Without Aspect".

#### *3.3.3.2 Pereltsvaig (2002, 2005, 2008)*

The lexicalization hypothesis put forward in Polinsky (1996) was further developed in a series of papers by Pereltsvaig (2002, 2005, 2008). Pereltsvaig (2002) formalizes the idea as the Lexical Aspect Hypothesis (LAH) and argues that the LAH is superior to two possible alternative explanations for the loss of aspectual distinctions in heritage Russian, both of which she also explores: the Statistical Frequency Hypothesis and the L2-Transfer Hypothesis. The paper is based on analysis of Polinsky's production data, including speech recordings as well as examples gathered from Polinsky's earlier papers. Thus, the data come from the pool of speakers identified by Polinsky as low-proficiency speakers, or people who represent basilectal heritage grammars. A total of 150 verb forms are analyzed in Pereltsvaig's (2002) study, including both correct (112, or 75%) and incorrect (38, or 25%) aspectual forms, from the point of view of Standard Russian. Only the latter portion of data, i.e. production errors, are examined, as they are said to serve as "the clearest window into American Russian aspectual system, uncontaminated by possible access to Standard Russian grammar through

memorization… or by distributional bias whereby lexical and grammatical aspects in Standard Russian tend to correlate" (Pereltsvaig, 2002: 3).

Among general preliminary observations regarding the proportion of forms in the data, the following trends are noted: first, no clear preference for either perfective or imperfective aspect emerges (note that this point contrasts with Polinsky's (2009) observations, where a perfective bias is reported); second, some verbs in the corpus are found to occur only in one aspectual form. These verbs are presented below, with the number of tokens for each verb noted in parentheses (from Pereltsvaig, 2002: 4).

(129) IMP*: like/love* (8), *speak/talk* (8), *have* (4), *live* (4), *study/go to school* (4), *think* (3), *be-afraid* (2), *know* (2), *remember* (2), *wait* (2).

PFV: *buy* (5), *invite* (3), *say/tell* (3), *give back* (2), *kill* (2), *meet* (2), *phone* (2).

Among other examples, aspectual errors are discussed. Here, a conclusion is made that "whenever American Russian speaker makes a 'mistake' with the choice of the aspectual form of the verb, the form they choose is the one that corresponds to telicity" (Pereltsvaig, 2002: 12). For all verbs in the example below, the opposite aspectual value from the one used to heritage speakers would have been appropriate in Standard Russian (from Pereltsvaig, 2002: 10).

(130) IMP: *grow*, *show*, *speak*, *drive*, *run*, *walk*/*go*, *like*, *be-ill*, *hang* (literally translated as "be attached in a vertical position without support"), *like/love*, *believe*, *hide* (literally translated as "be concealed").

PFV: *write*, *read*, *take*, *give back/return*, *come/arrive* (driving or riding), *come/arrive* (walking), *get up*.

Noting that a correlation between the grammatical form and inherent lexical meaning of the verb emerges, Pereltsvaig (2002: 9) formulates the Lexical Aspect Hypothesis as follows: "Aspectual marking in American Russian encodes the presence vs. absence of an inherent end-point associated with the verbal root: verbs that imply an inherent end-point are marked with the so-called PERFECTIVE morphology, whereas verbs that do not imply an inherent end-point are marked with the so-called IMPERFECTIVE morphology." The inherent endpoint is further defined in terms of telicity ("a property of the verb itself"), which is in turn connected to Vendlerian classes: "activity and stative verbs are atelic, whereas accomplishment and achievement verbs are telic" (p. 7, 11). Hence, Pereltsvaig (2002) suggests that it would be appropriate to refer to perfective and imperfective morphology in American Russian as telic and atelic markers, rather than aspect markers *per se*.

The approach advocated in Pereltsvaig (2002) reiterates and develops the descriptive generalization expressed in Polinsky (1996, 1997). However, the two approaches differ in their explanations for the observed correlation. While Polinsky (1996) attributes the link between (a)telicity and (im)perfectivity in heritage Russian to frequency in the input, Pereltsvaig (2002) argues that statistical frequency in the input cannot be the relevant factor because it fails to account for the American Russian data. Based on statistical frequency dictionaries she consults, not all aspectual errors in the corpus represent the most frequent form for the target verb in the baseline. Overall, the following picture emerges: while the LAH proposed for American Russian is shown to account for 28 errors (this is 82% of total aspectual errors in Pereltsvaig's (2002) data),

statistical frequency is shown to have "as good a predictive power as flipping a coin," accounting for 17 errors, or 50% of the corpus (Pereltsvaig, 2002: 24).

Another difference between the two approaches concerns the possibility of cross-linguistic influence on aspectual restructuring. In Polinsky's (2009) paper, influence from English is treated as a possible factor in the restructuring of the aspectual system in heritage Russian: in the words of Polinsky (2009: 19), the HR system of encoding aspect "may have arisen either under the influence of English, which would amount to transfer, or under the creolization of Russian under incomplete learning. At this point, it is impossible to tell which of these two scenarios applies." In contrast, Pereltsvaig (2002) claims that L2 transfer does not play a role in what she analyzes as L1 attrition of aspect: a possible L2-Transfer Hypothesis, formulated as stating that "American Russian speakers use aspectual marking in a way analogous to how aspectual markers are used in their dominant L2 (i.e., English)" (p. 30), is argued to make wrong predictions with respect to the retention and loss of aspectual forms in HR. Two such predictions are considered: use of the imperfective morphology in a way analogous to English progressive *-ing* and use of the perfective morphology to mirror English perfect. Since no evidence for either pattern emerges, and since heritage speakers make the choice of aspect on a verb-by-verb basis, instead of distinguishing between state-like readings and perfect-like readings for each verb[19], the overall conclusion is that English plays no role in the restructuring of aspect in heritage Russian (Pereltsvaig, 2002).

The Lexical Aspect Hypothesis for heritage Russian is reformulated in Pereltsvaig (2005), who argues that verbal aspectual morphology in HR encodes a lexical aspectual

[19] The evidence discussed in support of this claim is the sentence pair presented in (14) in Chapter 1.

property of the verb [±P]. The new proposal attributes the use of perfective and imperfective forms not to telicity in the sense defined in Pereltsvaig (2002), but to a related notion: the presence or absence of a bounded Path in the inherent lexical meaning of the verb (Pereltsvaig, 2005: 385). The following definition of this feature is provided: "[a] Path is bounded if it has a clear endpoint or transition from one state into another." Verbs that denote a bounded Path are called [+P] verbs, and those that do not are [-P]. In heritage Russian, verbs with an inherent [+P] feature are retained as perfective, whereas verbs inherently specified as [-P] are retained in the imperfective form. Since the empirical data appear to be the same as those reported in Pereltsvaig (2002), the list of examples of lexicalized perfective and imperfective verbs that are the subject of discussion will not be restated here (but see (129) and (130) above). However, the following list may be helpful to the reader: here, the verbs representing errors under discussion are classified as [+P] verbs and [-P] verbs. The classification is from Pereltsvaig (2005: 376):

(131)

| [+P] verbs: | | [-P] verbs: | |
|---|---|---|---|
| *chitat'* | 'read' | *pokazyvat'* | 'show' |
| *priexat'* | 'come/arrive (driving or riding)' | *bezhat'* | 'run' |
| *prijti* | 'come/arrive (walking)' | *ljubit'* | 'love' |
| *otdat'* | 'give back' | *govorit'* | 'speak' |
| *vstat'* | 'get up' | *idti* | 'walk/go' |
| *sdelat'* | 'do/make' | *verit'* | 'believe' |
| | | *exat'* | 'drive' |

| | |
|---|---|
| *viset'* | 'hang (intr.)' |
| *prjatat'sja* | 'be concealed' (hide) |

In addition to explaining the behavior of verbs that were used in an incorrect form in production data, given in (131) above, Pereltsvaig's (2005) proposal strives to account for the 'deviant' forms on the Swadesh list translation task (reported in Polinsky, 1996). Recall that according to a formal convention, the imperfective form is taken to be the standard citation form for all verbs in Literary Russian. However, in translating verbs on the Swadesh list from English into Russian, heritage speakers used perfective forms for verbs given in (132) below, analyzed as [+P] verbs in Pereltsvaig (2005):

(132) [+P] verbs: *do/make, kill, find, be born, stop, bite, die, fall, say.*

Although some aspectual variation is attested both in spontaneous production and in translation (i.e., the same speaker sometimes chooses a perfective form and sometimes an imperfective form for a given verb), the LAH is designed to account only for the choices that represent deviations from the standard norm. Instances where heritage speakers choose the right form, from the perspective of Standard Russian, are attributed to three factors: various degrees of attrition across speakers, whereby some speakers are closer to the baseline and are hence expected to make fewer errors in principle (it seems, then, that the lexicalization hypothesis would not apply to these speakers to the same extent); use of memorized chunks, which represent fossilized fragments of the baseline system, rather than representing the rules of the new HR system; and a distributional bias in the baseline, whereby lexical and grammatical aspects already tend to correlate (Pereltsvaig, 2005: 371). Because of these three factors, all target-like uses of aspectual forms are

excluded from consideration, and only mistakes in the data are taken to "represent the American Russian grammatical system" (Pereltsvaig, 2005: 371).

In her account of aspectual restructuring in heritage Russian, Polinsky (1996) takes the lexicalization phenomenon as evidence that aspect in baseline Russian is a lexical, rather than grammatical, notion (see Section 3.2 above for an overview of the debate): "[i]f American Russian can serve as a litmus test of any kind, Russian aspect is clearly a lexical category" (p. 52). However, a different (opposite) interpretation is given in Pereltsvaig (2002, 2008). Based on the lexicalization phenomenon observed in heritage Russian, Pereltsvaig (2008) argues that Russian aspect is a grammatical, rather than lexical notion. Loss of aspectual contrasts in heritage Russian is argued to be guided by principles different from those that drive lexical attrition, so that "the choice between aspectual forms… are not subject to the same factors as are lexical choices in general" (Pereltsvaig, 2008). Specifically, it is argued that while lexical attrition is generally attributed to transfer from the ambient language (such as borrowings, calques and collocations) and to frequency of use in the baseline language (such that the most frequently occurring items are retained longer), neither frequency nor transfer plays a role in the loss of aspect (cf. Pereltsvaig, 2002).

#### *3.3.3.3 Bar-Shalom and Zaretsky (2008)*

More recently, lexicalization of grammatical aspect in heritage Russian has been addressed in Bar-Shalom and Zaretsky (2008), who investigated the use of aspectual forms in controlled production data collected from 15 Russian-English bilingual children between ages 4;0 and 10;11, born in Russia (six participants) or in the US (nine participants). In all cases, however, Russian was the L1 used exclusively in the home

domain, and the age of initial exposure to English for all participants ranged from 2;0 to 6;5. From methodological standpoint, the study was based on the retelling paradigm: children were instructed to listen to and then retell a story in Russian ('Two Unhappy Friends'). The original story contained 35 PFV and 31 IMP verb forms, allowing for ample opportunities for the use of aspectual forms in the narratives. The participants' narratives were analyzed for lexical aspect and for accuracy of use of grammatical aspect markers with verbs of various lexical classes of verbs. In addition to aspectual morphology, the study focused on other variables, such as errors with case morphology and agreement, lexical errors, and instances of code-switching. The data were compared to a control group of age-matched monolingual Russian children tested in Moscow, whose narratives were also analyzed for the use of aspectual markers and other structural variables.

Although the authors found numerous lexical errors, as well as some errors in the domain of morphosyntax (case and agreement), the main finding of the study involved the use of aspectual morphology: no differences between the monolingual and heritage groups were found with respect to the expression of aspectual distinctions, both semantically and with respect to derivational properties. This finding is undoubtedly important, as "lexicalization of grammatical aspect was proposed to be the core feature of the verbal system of American Russian (i.e., linguistic variety used by heritage speakers of the Russian language) reported in previous research" (Bar Shalom and Zaretsky, 2008: 296). In accounting for the virtually errorless performance of the heritage group, which points to the preservation (rather than loss) of aspectual distinctions in the context of HLA, the authors appeal to the notion of proficiency continuum and presence of various

attrition stages in the context of intergenerational language loss: the aspectual system may be spared in the beginning stages of attrition, and, assuming the lexicalization hypothesis is on the right track, it may take many years for aspect to be fully lexicalized.

#### *3.3.3.4 Summary and Discussion*

Overall, detailed analysis of existing studies on heritage Russian aspect yields the following observations. Basilectal varieties, which have so far been examined most extensively, seem to be characterized by a total loss of perfective-imperfective opposition: verbs are no longer stored in aspectual pairs in the lexicon, with only one of the two aspectual forms retained for any given verb. The retention of one form over the other is linked to several possible factors: the frequency of occurrence in the baseline variety, frequency of conceptualization of the eventuality denoted by the verb, or intrinsic lexical feature specifications of the verb. In contrast, speakers of those varieties of heritage Russian that represent relatively higher stages on the proficiency continuum are reported to exhibit fully target-like behavior with respect to aspectual marking, measured by absence of overt errors in production. This state of affairs in current research on heritage Russian aspect can be represented schematically as follows:

(133) Low-proficiency speakers …… High-proficiency speakers
[total loss of aspect] [total preservation of aspect]

In the introductory chapter of this dissertation (Section 1.3), some limitations of a target-deviation approach (Klein, 1998) in language acquisition research have been discussed. Review of existing studies on heritage Russian aspect in Section 3.3.3 above reveals a strong emphasis on error-analysis in current research on the subject. Since generalizations

about the overall aspectual system of heritage Russian are formulated on the basis of overt mistakes observed in production, it is not entirely clear how the reorganization of the aspectual system proceeds from a total lack of production errors to a complete disappearance of aspect as a category. Additionally, under the assumption that absence of evidence is not evidence of absence, the question is still open whether the aspectual system instantiated in acrolectal varieties of heritage Russian is fully equivalent to the corresponding system in the baseline variety, or whether heritage speakers may exhibit signs of covert divergence in their use, comprehension, and acceptability judgments of aspectual markers. Answers to these questions could provide important clues with respect to the currently missing pieces of the puzzle regarding the exact mechanism, nature, and directionality of grammatical development in a HLA context.

Absence of empirical data in the form of a native speaker control group, with which more fine-grained comparisons could be made, emerges as another potentially significant drawback of the existing work on heritage Russian aspect. In order to be maximally accurate, generalizations about the areas of divergence and areas of convergence between the learner grammar and the target grammar should, whenever possible, be based on empirical evidence from both linguistic systems, rather than established by comparing the learner production data to an idealized version of the target grammar as represented in dictionaries or in native speakers' meta-judgments about perceived grammatical correctness. Difficulty of measuring the available linguistic data on heritage Russian against a control group of full competent speakers can in some sense be attributed to the design of most existing studies on the subject: typically, generalizations have been based on observation of spontaneous naturalistic production

(such as sociolinguistic interviews with the investigator), rather than in controlled experimental environments, making it difficult or impossible to obtain comparable data from a control group. Even more controlled production experiments, such as story-telling or retelling, which in principle lend themselves better to explicit comparisons with equivalent data from a control group, still do not guarantee that such comparisons would be fully accurate in allowing speakers to occasionally deviate from the story line, omit or add linguistic material, and employ avoidance strategies (Turian and Altenberg, 1991 and references therein) in order to get around particular constructions or forms.

However, other tasks employed in previous work on heritage Russian aspect, such as the Swadesh list translation experiment, can be fully testable against a control group of baseline speakers. Recall that the results of the Swadesh list translation task, reported in Polinsky (1996) and Pereltsvaig (2002, 2005), have shown that certain verbs were consistently translated by heritage speakers into Russian exclusively in the perfective form. A closer look at these verbs revealed that most[20] of these verbs were telic or [+P] verbs. This observation was interpreted in support of lexicalization in the context of a general loss of aspectual contrasts in heritage Russian. However, as noted in Section 3.3.3.1 above, data from competent adult native speakers of Russian, interviewed independently of each other in three different cities in Russia, showed that native speakers make similar choices in preferring to translate bare English verbs such as *say*, *kill*, *die*, *find*, *bite*, *stop*, and *be born* into Russian using perfective, rather than imperfective verbs. This outcome is unexpected if dictionary translations are taken as a point of comparison, because of a standard lexicographic convention that requires

[20] Arguably, with some exceptions, as discussed in Section 3.3.3.1.

imperfective citation forms to be used for all verbs, regardless of their lexical semantic properties. Instead of standard conventions, native speaker responses likely reflect the distributional bias (Andersen and Shirai, 1996) in the spoken varieties of Russian, whereby telicity and perfectivity are often aligned, with achievement verbs occurring in the perfective forms more naturally than in the imperfective.

Thus, it is possible that prescriptive dictionary norms are generally less representative of the baseline language than spoken data gathered from native speakers in online production tasks, which brings us back to the point at hand: the importance of a control group of baseline speakers that allows for accurate empirical generalizations. Even when native speaker consultants agree with certain dictionary norms and recognize them as the accepted standard, online experimental tasks may reveal deviations from these norms in actual production, and especially so in colloquial registers. Absence of data from a control group of baseline speakers placed in a similar experimental environment as speakers in the target group may prove to be a disadvantage in tasks aimed at identifying structural differences between two linguistic varieties.

Aside from these general methodological concerns, a potentially more serious problem for studies investigating interactions between the semantic component and the morphological component in the encoding of aspect is a certain lack of consistency in classifications of verbs into classes, taken to determine the aspectual form but frequently established on the basis of said form. In order to avoid potential circularity in argumentation, a classification of verbs according to their lexical aspect has to be done *outside* of verbal morphology – a task nearly impossible for individual verbs in certain classes of predicates in Russian, namely activities and accomplishments, whose telicity

specifications have been linked directly to the very presence and absence of aspectual morphology. For example, Timberlake's (1985: 44) account of aspectual classes in Russian is based on verbal aspectual forms: "[s]tates (if expressed by verbs) and activities (expressed by simplex – that is, unprefixed – verbs) are classified as imperfective. Only accomplishments and achievements can be perfective." Consider, as an example, an activity verb *pisat'*.IMP 'write.' In the absence of aspectual morphology, the verb denotes an activity and it is both imperfective and atelic. Addition of the perfective prefix not only changes the aspectual value of the verb, but also changes its lexical class by turning it into an accomplishment: *napisat'*.PFV 'write (something).' Analyses that attribute the use of the perfective marker to the derived lexical class of the predicate (*napisat'* is telic, hence a perfective form is used) run a danger of a certain circularity in argumentation if no independent criteria for verb classification are provided.

Lack of consistent autonomy from aspectual morphology in classifying verbs as telic or atelic, [+P] or [-P], in accounting for the occurrence of that morphology is a potential problem of the lexicalization approach. Careful examination of the empirical data given in examples throughout the section reveals that on several occasions, the resultant aspectual form of the verb itself appears to drive the categorization of the verb into a particular class. Consider the examples of [+P] verbs and [-P] verbs in (131). Recall that the [±P] property is said to be an inherent lexical property of the verb that determines the occurrence of aspectual form in heritage Russian. The imperfective verb *exat'* 'drive' is classified as [-P], while its perfective counterpart *priexat'* 'arrive by driving', which consists of the stem *exat'* and a perfectivizing prefix *pri-*, is labeled as [+P]. It thus appears that the presence or absence of the bounded Path in the denotation of

the verb itself depends on the aspectual form of the verb (here, the presence of a perfective prefix). As a result, use of the perfective form *priexat'* is attributed to the presence of [+P] feature on the verb, which is in turn due to the presence of the perfective prefix *pri-* (cf. *exat'*.IMP, which is [-P]). A similar pattern emerges with *idti*.IMP 'walk' – *pridti*.PFV 'arrive by walking' (the latter form is also pronounced as *prijti*), where the former verb is said to be [-P] and the latter [+P], but the presence of a perfective prefix appears to be the only difference between the two.

In what follows, I undertake an approach to the study of aspectual reorganization in heritage Russian that builds on the existing work but at the same time differs from previous studies in several ways, including differences in methodology, scope, and assumptions. In moving away from an error-based approach to studying aspect under HLA, I draw on data derived via controlled experimental tasks, rather than spontaneous production alone, and expand the scope of investigation from errors to the overall patterns of use, interpretation, and acceptability of aspectual forms by heritage speakers of Russian. These patterns are further compared against data from two control groups of Russian speakers (competent native speakers residing in Russia and non-heritage bilingual Russian-English speakers), aiming to uncover areas of divergence as well as areas of convergence between the groups. Third, in investigating the interaction between aspectual morphology and telicity, I shift the focus of attention from individual verbs to verbs in context. In doing so, I depart from the assumption that telicity is always a verbal matter. As the next chapter will demonstrate, a large group of predicates cross-linguistically are not intrinsically specified for telicity, which is determined instead at the level of the verbal phrase. This approach allows for a set of independent criteria for

classifying predicates as telic or atelic and provides a novel approach to the study of complex interactions between lexical and viewpoint aspects in heritage Russian.

# Chapter 4 Aspect and the Verbal Phrase

While early accounts of aspectual phenomena rarely, if ever, looked beyond the verb, today's theories of aspect posit as one of their central concerns the question of "whether verbs should be aspectually classified at all" (Rothstein, 2004: 29). An overwhelming amount of evidence has been cited in favor of a compositional approach to aspect, which maintains that aspectual distinctions are calculated not at the level of the verb, but (at the very least) at the level of the VP (Verkuyl, 1993, 1999). The contribution of Henk Verkuyl's work in this respect is difficult to overestimate: in fact, Kabakčiev (2000) suggests dividing the literature on aspect into two periods, pre-Verkuylian and post-Verkuylian, treating the proposal about the compositional character of aspectual meanings as a crucial landmark signaling the beginning of a new era in aspectology.

This chapter is organized as follows. Section 4.1 discusses the notion of compositional telicity at the phrasal level, where the telic and atelic interpretations of some predicates are shown to be derived from the interactions between the verb and its arguments, rather than inherently specified on the verbs themselves. Next, the relevance of the VP-level for the encoding of the viewpoint aspect distinctions is discussed in Section 4.2. Section 4.3 raises some questions for the Lexical Aspect Hypothesis in its current form. Finally, Section 4.3 presents experimental evidence to argue that the interaction between lexical and viewpoint aspects in heritage Russian extends beyond the properties of individual verbs and into larger linguistic units.

## 4.1 How 'Lexical' is Lexical Aspect? Telicity as a Compositional Notion

A rich body of literature on aspect has shown that the aspectual meanings of a large set of predicates cross-linguistically are not inherent to the verb, but are rather determined compositionally through the interaction of verbs with their arguments (Dowty, 1991; Verkuyl, 1993; Ramchand, 1997; Kratzer, 2004, *inter alia*). The idea that telicity is best viewed as a compositional notion has received much empirical support from the English verbal predicates denoting activities and accomplishments, which have been shown to exhibit variable telicity effects in different contexts: in the words of Dowty (1979: 61), "I have not been able to find a single activity verb which cannot have an accomplishment sense in at least some special context." Overall, the overwhelming majority of verbal predicates have been claimed to exhibit varying aspectual interpretations by virtue of belonging to the class or activities and accomplishments (Slabakova, 2001). Predicates of this type have been referred to as aspectually transient (Verkuyl, 1999; Gavruseva, 2003), unspecified for telicity or [α-telic] (Slabakova, 2001), verbs of variable telicity (Kennedy and Levin, 2008), and alternating verbs (Kratzer, 2004).

Variable telicity effects with accomplishments and activities can be illustrated with the classic *in x-time / for x-time* diagnostic test commonly used for determining telicity (Dowty, 1979; Verkuyl, 1999; Borik, 2006; Rothstein, 2008; *inter alia*). In this test, known as the adverbial modification test, the verb in question is presented together with an adverbial expression indicating how long the event lasted until it was finished. Telic predicates take an *in*-PP as a temporal modifier (e.g., *in an hour/five minutes*), whereas atelic predicates can be modified with a *for*-PP (e.g., *for an hour/five minutes*).

The latter modifiers are known as ‘frame adverbials,’ while the former as ‘duration adverbials’ (Borik, 2006: 23). Consider the following examples:

(134) a. Pavel built rockets for twenty years.

b. Pavel’s son built the rocket in twenty minutes.

The predicate *built rockets* in (134) (a), which contains a plural noun in the internal argument position, is atelic, as shown by the fact that it takes a duration adverbial. However, the same verb with a singular noun in the direct object position in (134) (b) yields a telic interpretation, which calls for a frame adverbial instead. Additional examples of [α-telic] verbs, from a survey of the relevant literature, include *read, write, eat, drink, sing, draw, paint, bake, make, buy, sell*. These predicates include transitive verbs whose internal arguments are able to “measure out” and “delimit” the event (Tenny, 1994). In the words of Rothstein (2004: 4), “[t]elicity and atelicity are properties of verb phrases, and the status of the VP with respect to telicity will depend on the interaction of the meaning of the V with other elements in the VP.” Bare plurals and mass nouns in the direct object position (e.g., *books*, *milk*) contribute to the atelic interpretations of predicates, whereas predicates which are “measured out” by objects that denote some specified quantity (*two books*, *several letters*), in English also associated with the presence of a definite or indefinite article (*a/the car*), are interpreted as telic. For example:

(135) a. John drank wine/ate apples.

b. John drank a glass of wine/ate two apples/ate some apples/ate the apples.

In her discussion of the verb *eat* and its interaction with nouns in the internal argument position, Tenny (1994: 24-25) writes that a count noun such as *an apple*, refers to something that has some fixed quantity and is thus spatially delimited, whereas bare plural nouns like *apples* refer to something of undefined quantity or extent. These properties of direct objects, in turn, translate into the temporal delimitedness of the verb: just like a spatially delimited object has a fixed quantity (even if the quantity is unknown) or a "fixed extent in space", temporally delimited verbs have a fixed duration (even if the duration is unknown). Thus, the count/mass distinction for nominals appears to be in many ways parallel to the aspectually delimited/non-delimited distinction in verbs, not only in English but cross-linguistically (Tenny, 1994; Kratzer, 2004). Analogies between the morphology of nouns and verbal aspectual morphology in Russian are discussed in more detail in Section 4.2 below.

The effects of the direct object on what Verkuyl labels as two aspectuality types, 'terminativity' and 'durativity' (telicity and atelicity, in our terms), have been noticed as early as the beginning of the twentieth century but have not received sufficient attention until Verkuyl's (1993, 1999) influential work on the subject. Verkuyl's theory of compositional aspectuality is one of the most comprehensive illustrations of a structural approach to the formation of telicity at the level of a predicate and a sentence at large. Verkuyl's (1993) notion of aspectual composition is based on the interactions between the verb and its arguments. The account relies on features, which combine to produce telic or atelic interpretations at levels of sentential structure higher than the verb itself. The two main features responsible for aspectual composition in Verkuyl's theory are [±ADD TO] and [±SQA]: the former feature is for verbs and the latter is encoded on

nominal arguments. The [±ADD TO] feature signals the property of additivity expressed by the verb. All verbs are lexically specified as either [+ADD TO] or [-ADD TO]. This feature differentiates between stative and non-stative (eventive) verbs. The class of [-ADD TO] verbs includes Vendlerian states, because these verbs do not express dynamicity (progress in time). All remaining verbs, including Vendlerian activities, accomplishments, and achievements, carry the feature [+ADD TO].

However, the verb alone does not determine the telicity value of the predicate at large. The feature specification of nominal arguments, [±SQA], also needs to be taken into consideration. [+SQA] stands for "a specified quantity of A" (A for argument). Nominals that carry the feature [+SQA] include those arguments for which certain cardinality information is provided, for instance, by a determiner or a quantifier: *two letters*, *a cat*, *the book*, *some beer*. In contrast, bare plural and mass nouns such as *cats*, *snow*, or *beer*, are devoid of any quantity value and are marked as [-SQA].

The calculation of the telicity value of the predicate begins with the verb. If the verb is [-ADD TO], the resulting predicate will always remain atelic, regardless of further feature specifications on the nominal arguments. If the verb is [+ADD TO], then the feature specifications on the nominal arguments[21] become of central importance: [+SQA] nominals in the direct object position produce telic predicates, while the presence of a [-SQA] argument leads to atelicity of the resulting predicate. Thus, for example, an [+ADD TO] verb *eat* combines with a [+SQA] nominal *two apples* to produce a telic VP *eat two apples*, while an [-SQA] bare plural *apples* results in an atelic phrase *eat apples*. Only

[21] Verkuyl's (1993) theory posits that both internal and external arguments play a role in aspectual composition of the sentence. Our present discussion will focus on the level of the VP and the contribution of the internal argument.

positive values, [+ADD TO] for the verb and [+SQA] for the arguments, contribute to telic interpretation of the verbal phrase (and, on a larger scale, of the sentence as a whole). If one of the relevant values in the aspectual composition is negative, the interpretation is atelic.

Another influential approach to VP-level telicity, derived on the basis of the special type of relationship between the verb and its internal argument, is the mereological account proposed by Krifka (1998). The account is based largely on the notion of part-whole relationships, called incremental. Predicates like *eat an apple* exhibit an incremental relation between the verb and its object: the apple is being consumed part by part, and as the event of eating gradually progresses in time, say bite by bite, the apple gradually disappears, bit by bit. Thus, for each part of eating, there is a corresponding part of the apple that is being eaten, which has been labeled as the mapping of an object into the event. Some verbs enter into an incremental relationship with their object, while some verbs do not: for example, *see* is not incremental, because the seeing event denoted by the predicate *see a picture* does not consist of a series sub-events where a part of the object corresponds to a seeing sub-event (Borik, 2006: 33-36).

Arguments for the treatment of telicity as a compositional notion are further developed in Rothstein (2008), who argues that "[ch]aracterising telicity in terms of the verb class or feature characterisation of the head is not possible, since various pieces of data show clearly that the head does not fully determine the telic/atelic status of the VP" (p. 49). Using two linguistic tests commonly employed for establishing (a)telicity of predicates (described above), Rothstein (2008) shows that the verbal head is not the only relevant factor. While states and unmodified activities yield atelic interpretations,

intransitive achievements are telic; however, activities and accomplishments can be either telic or atelic depending on whether the direct object is a singular noun or a bare plural or mass noun. Activities can further head telic VPs when modified by certain directional phrases, as in (136) while achievements can be interpreted as atelic in the presence of a plural subject, as in (136). Examples below are from Rothstein (2008: 50):

(136) a. John ran to the store.

b. Guests arrived for hours.

Lack of one-to-one mappings between the verbal aspectual class and its telicity value leads Rothstein (2008) to make the following distinction: Vendlerian classes are largely based on the properties of verbal heads and, as such, are used to classify verbal heads, while telicity or atelicity is the property of VPs rather than verbs, and should be calculated based on other material in the VP (cf. also Krifka, 1998).

### 4.1.1 Two Kinds of Telicity

A two-level distinction based on verbal and VP-level telicity within the domain of lexical aspect is advocated in Gavruseva (2003), who proposes a two-way typology based on inherent vs. non-inherent telicity. Building on the observation that Vendlerian classification inevitably categorizes the same lexical verbs into different classes (e.g., *write* is an activity while *write a book* is an accomplishment), making them both telic and atelic, she suggests taking away any specification for telicity for these verbs at the lexical level and placing it entirely at the level of the VP, where [+SQA] and [-SQA] arguments determine the telicity value of the phrase syntactically. Thus, verbs like *write* are analyzed as having no inherent telicity specification, which means that they are not

marked as telic or atelic in the lexicon – an idea notated as follows: $V_{[+/-telic]}$. Verbs in other aspectual classes (states and achievements) are characterized by an inherent specification of telicity.

Borik (2006: 21-22) proposes a similar distinction between what she calls lexical aspect and telicity aspect. In this terminology, lexical aspect is determined by inherent temporal properties of verbs (i.e., their "lexical type"), while telicity aspect (also "predicational aspect" or "inner aspect") refers to the derived aspectual type of a predicate as a whole, determined on the basis of the information provided by verbal arguments. Both types of aspect are independent of viewpoint ("grammatical" or "outer") aspect, represented in the morphological perfective-imperfective opposition in Slavic languages.

A similar binary treatment of lexical aspect is presented in Slabakova (2001), who proposes a phrase structure approach to the four aspectual classes in English. States and achievements are grouped into the class of predicates with an inherent telicity value, [±telic], such that states are [-telic] and achievements are [+telic]. For these two predicate classes, telicity is fully lexical, and properties of the internal argument cannot override the lexical feature of telicity. On the other hand, activities and accomplishments are grouped together as predicates whose aspectual value is calculated syntactically at the level of the VP. Verbs in these classes are labeled as [α-telic], because they do not carry an intrinsic telicity value. Instead, their aspectual interpretation depends crucially on the quantity feature on the internal argument.

As noted in Section 3.1 above, a tripartition of verbal predicates into telic, atelic, and verbs of dual aspectual nature has been employed at least since the nineteen sixties by Russian anglicists (Kabakčiev, 2000 and references therein). These early analyses are fully consistent with the two-level approach to lexical aspect as discussed here, where the inherent telicity value of states and achievements is specified lexically, while the compositional telicity value of [α-telic] predicates (i.e., predicates which exhibit shifts between activity and accomplishment readings) is determined structurally at the level of the verbal phrase. In the remaining portions of the dissertation, our focus will be on the latter type of predicates, which had largely been excluded from systematic investigation in previous research on the subject.

## 4.2 Aspect in Russian: Beyond the Verb

Recent studies on the expression of viewpoint aspect cross-linguistically have provided ample evidence to question the traditional assumption (an assumption based largely on studies of aspect in Slavic languages, where the relevant morphology is expressed on the verb) that the general aspectual bounded-unbounded distinction is necessarily a verbal matter. The formal domain of aspect, i.e. its morphosyntax and scope, has been argued to extend beyond the verb and be marked by forms other than the verb (Al-Tarouti, 2001; Binnick, 1991; Bybee et al., 1994; Dahl, 1985). For example, some Finno-Ugric languages, such as Estonian and Finnish, employ case morphology on the direct object to express perfectivity or imperfectivity (cf. boundedness and unboundedness), making it possible to draw certain parallels between case markers in Finno-Ugric languages and perfective and imperfective verbal affixes in Slavic languages

(Comrie, 1976; Dahl, 1985; Kiparsky, 1998). Consider the following examples (adapted from Kiparsky, 1998: 267):

(137) a. Ammuin karhua.
shot.1.SG bear.PRT
'I shot at the/a bear'

b. Ammuin karhun.
shot.1.SG bear.ACC
'I shot the/a bear'

In (137) (a), the "aspectually irresultative," unbounded interpretation is due to the presence of the Partitive case marker on the direct object, while (137) (b), with the Accusative case marker, yields a bounded interpretation of the predicate (Kiparsky, 1998: 267). Similar aspectual contrasts exist in Estonian, where "perfectivity is involved in the grammar of case marking," and in Hungarian, where definiteness of the direct object triggers a perfectivizing prefix on the verb (Al-Tarouti, 2001: 198-199).

The idea that Slavic aspect is not exclusively a matter of the verb alone, as was assumed at the turn of the twentieth century, but is relevant at a higher phrase structure level began to emerge in the twenties and thirties (Verkuyl, 1999: 96 and references therein), but was fully articulated and gained wider acceptance only in the last few decades (Verkuyl, 1999; Schoorlemmer, 1995; Dimitrova-Vulchanova, 1996; Borik, 2006). Regardless of the position taken by scholars with respect to lexical or grammatical status of perfective prefixes in Russian, the overall consensus is that they affect not just the verb but the entire VP. Slabakova (2005: 333) points out that "the bulk of Slavic roots

are neutral with respect to telicity in the lexicon," or [α]-telic. Similarly, in her analysis of the Russian perfective prefix *na-*, Russell (1985) suggests that lexical aspect in Russian "is not fixed for a given verb form, but may shift depending on the nature of the object of the verb," one of the crucial properties in this domain being the mass versus count distinction (p. 59).

Parallels between noun morphology and aspectual properties of verbs in Russian are examined in Mehlig (1996), who makes a distinction between temporally heterogeneous (transformative) and temporally homogeneous (non-transformative) events in the domain of verbs. Non-transformative events, such as *rabotat'* 'work,' have no natural boundaries and are said to be marked by the property of arbitrary divisibility: they are arbitrarily divisible in the sense that if an event denoted by such verbs is true for a certain period of time, it is also true for each section (or "sub-interval") within that period of time. As a result, each sub-interval of the whole event such as *rabotat'* can also be described as *rabotat'*. On the other hand, transformative events, such as *pochinit' slomannyj zamok* 'to fix a broken lock,' are not arbitrarily divisible, because they express a transition from a preceding to a non-identical subsequent state. This distinction is further shown to be parallel to the count/mass distinction in the nominal domain. The twofold transformative/non-transformative classification is reflected in the expression of aspect, as only transformative predications are argued to possess a perfective form in addition to the imperfective form: perfective transformatives present the denoted heterogeneous event in its totality, while the imperfective aspect with a transformative event makes the final state irrelevant, even for events that already reached the inherent boundary. In contrast, non-transformative verbs, which do not have inherent boundaries

and do not imply any inherent feature of change, are considered to be *imperfectiva tantum* in Slavic languages, i.e., aspectually unpaired verbs. They can be perfectivized only if they are delimited (limited temporally), either by special delimitative prefixes (such as ingressive *za-* in *zakruchal* 'began screaming' or finitative *ot-* in *otshumeli* 'ceased to growl') or by case morphology in the nominal domain, such as the Partitive Genitive[22] case on the mass noun in the object position. Partitive Genitive is a special type of Genitive in Russian; it "extracts" a limited quantity from the mass noun (Mehlig, 1996: 95). Compare the following sentences:

(138) a. Ja kupil chaj.
I bought.PFV tea.ACC
'I bought (the) tea.'

b. Ja kupil chaju.
I bought.PFV tea.GEN-PRT
'I bought some/a little tea'

The Partitive Genitive in (138) (b) indicates that some quantity of tea has been bought, even though the quantity is not specified or defined precisely. Thus, the form *chaju* denotes a homogeneous but limited amount of tea. Similarly, delimitative perfectivization in the verbal domain delimits a homogenous event like *guljat'* 'walk' to a certain unknown temporal interval, e.g. *poguljat'* 'walk a little bit' or 'walk for a while.' The resulting perfective forms are said to be "quasi-equivalents" of the missing paired perfective forms, in the sense that they do not denote reaching an inherent boundary (as

[22] The Genitive Partitive case in Russian is not always formally distinguishable from the regular Genitive. Only a small subset of Masculine mass nouns have a special suffix *-u/-ju*, which fulfills the Partitive function, in addition to the generic Genitive *-a/-ja*. The -u/-ju forms can only be used to denote "a bounded quantity from the homogeneous continuum" (Mehlig, 1996: 89).

with transformative verbs), but only express temporal limitation. Some verbs exhibit oscillations between transformative and non-transformative readings (these are verbs of variable telicity in our present terminology). This property is also reflected in the nominal domain, as some nouns also show variable behavior with respect to mass and count readings (e.g., *ryba*.SG.NOM 'fish,' *mnogo ryb*.PL.GEN 'many fishes', *mnogo ryby*.SG.GEN 'much fish').

Parallels between the category of verbal aspect in Russian and the category of definiteness in languages that employ articles in the nominal domain are examined in Gasparov (1990) as two reflections of the speaker's point of view on the world: just like the choice between the definite and indefinite articles creates alternatives in the presentation of objects, the choice between the perfective or imperfective aspect gives rise to alternatives in the presentation of events: "[t]he necessity of employing one or another aspectual form compels the Russian speaker to continually make a choice between two alternative points of view on the processes, in a way not unlike that in which the necessity of using articles makes the speaker of one of the Germanic or Romance languages choose between two different points of view on objects" (Gasparov, 1990: 210). While languages may differ with respect to the linguistic material available to express alternative views, the general principles that regulate how the world experience is presented and organized in language are argued to be similar.

Rappaport's (1985) account of Russian aspect maintains that aspectual effects extend "beyond the verb form itself to other parts of the sentence" (p. 194). The perfective aspect is said to impose certain restrictions on the interpretation of the direct

object and affect its referential properties, e.g. definiteness and quantity. Compare, for instance, sentences in (139) and (139) (adapted from Rappaport, 1985: 194):

(139) a. Ja jel mjaso.
I ate.IMP meat
'I ate/was eating meat'

b. Ja sjel mjaso.
I ate.PFV meat
'I ate [all] the meat'

The use of the perfective verb in (139) (b) signals that the object has specific reference: "there is a particular piece or quantity of meat under discussion" (Rappaport, 1985: 194). The imperfective form of the verb, however, yields a generic interpretation of the nominal in the direct object position. In the absence of articles, verb morphology in Russian thus contributes to the distinctions expressed by definite and indefinite articles (or their meaningful absence) in English.

In addressing the question of locality with respect to Slavic aspectual prefixes (i.e., what are the scopal effects of aspectual markers?), Verkuyl (1999) argues that perfective prefixes in Slavic languages have a VP, rather than a V, in their domain (p. 93). This observation contrasts with some earlier approaches to aspectual prefixes, traditionally treated as morphological instantiations of certain semantic properties of the verb (see Verkuyl, 1999: 98 for an overview and references). The presence of a perfective prefix is shown to impose a particular interpretation on the internal argument: in (140)

(a), the interpretation is that Ivan has read some unspecified quantity of poems, while in (140) (b) the quantity of poems is restricted (examples adapted from Verkuyl, 1999: 108).

(140) a. Ivan chital stixotvorenija.
Ivan read.IMP poems.ACC
'Ivan has read poems'

b. Ivan prochital stixotvorenija.
Ivan read.PFV poems.ACC
'Ivan has read the poems'

In Verkuyl's analysis, the latter example "refers back to the poems being discussed, or some other contextual clue is present to delimit the set of poems" (p. 108). The correspondence between the presence of a perfective prefix and the resulting interpretation of the VP leads Verkuyl to the conclusion that perfective operators have the VPs in their scope. In observing that the presence of a perfective prefix in Slavic languages does not affect the verb alone, but has a long-distance effect, Verkuyl (1999) presents an analysis of Russian that makes it possible to treat aspectuality in Slavic and Germanic languages in a uniform way, despite some differences with respect to how the relevant information is encoded in the languages in question (e.g., presence or absence of perfective prefixes in the verbal domain, as in Slavic, versus presence or absence of overt articles in the nominal domain, as in English). Some of these differences are discussed in detail in Slabakova (2001), who argues for a parametric distinction between English and Slavic with respect to the encoding of telicity.

## 4.3 Aspect in Heritage Russian: Beyond Lexicalization

As noted in Slabakova (2005: 333), "the bulk of Slavic roots are neutral with respect to telicity in the lexicon." If certain classes of verbs are not inherently specified for telicity, heritage speakers should receive no information from such [α-telic] verbal roots about aspect. What, then, determines aspectual marking for predicates of variable telicity in a heritage grammar? This question is addressed in an experimental study described in the next section.

### 4.3.1 Experiment 1: Sentence Construction

Following, among others, the work of Verkuyl (1993, 1999), Ramchand (1997), and Kratzer (2004), who have argued convincingly for the central position of the VP (rather than the verb alone) in construing temporal structure cross-linguistically, I hypothesize that in the absence of lexical aspectual specification on the verb, heritage speakers could be sensitive to the [±SQA] property of the internal argument within the VP in their use of verbal aspectual morphology. Recall that the [+SQA] feature marks specified cardinality in the nominal domain, expressed via overt quantifiers, numerals, and measure expressions (*some milk, two books, a bottle of wine*), articles and determiners (*the building, a picture*), or proper names (*Michael Scott*). In contrast, bare plurals (*dogs*) and mass nouns (*water*) carry an [-SQA] feature (Section 4.1 above). The proposal that aspectual marking in heritage Russian may correlate with compositional aspectuality of the predicate, labeled here as the VP-Aspect Hypothesis, would predict that [α-telic] verbs (namely, activities and accomplishments) will exhibit systematic variability of aspectual marking at the VP level: given the same verbal root, perfective marking will be preferred in [+SQA] contexts and imperfective forms will dominate with

[-SQA] arguments. Under the proposal that aspectual morphology in heritage Russian reflects inherent properties of individual verbal roots, we expect to see no aspectual variation across the two conditions, with verbs surfacing in the same form regardless of [+SQA] or [-SQA] feature specification on the direct object. I will label this alternative idea as the V-Aspect Hypothesis.

#### *4.3.1.1 Methodology*

In order to test for a possible correlation between verbal aspectual marking and aspectual compositionality at the VP-level, the speakers were asked to construct 20 original sentences in Russian, using verbal predicates provided for them by the investigator. Each target predicate consisted of an [α-telic] verb followed by a direct object. The predicates were elicited in two experimental conditions: 10 objects were [+SQA] (*a cake, a car, a circle, a glass of wine, a sandwich, a big mistake, the house, "War and Peace," one song, two letters*), creating what will be referred to as the compositionally telic condition, and 10 were [-SQA] (*cakes, cars, circles, milk, popcorn, mistakes, houses, books, songs, letters*), thus giving rise to atelic interpretations of the verb phrases. The verbs were kept invariable across the two conditions, with each of the following 10 verbs used twice in the experiment (once per condition): *bake, buy, draw, drink, eat, make, paint, read, sing,* and *write*. The predicates were presented in English, where verbs are morphologically unmarked for aspect and thus appear exactly the same in both conditions. However, in order to use the target phrase in a Russian sentence, each speaker had to make an obligatory choice of a perfective or an imperfective aspectual

form: all verbs in Russian, including infinitives and imperatives, are overtly marked for aspect[23].

#### *4.3.1.2 Participants*

The group of heritage speakers consisted of 23 adults: mean age = 21 (range: 18-29); mean age of arrival to the US = 5.46 (range: 0-11); mean length of time in the US = 15.93 (range: 9-22). All speakers used English as their primary language of communication, with the average use of Russian in everyday life = 23.18% (range: 10%-50%). The contexts in which Russian was reported to be used were limited to restricted family domains (mainly, for communication with grandparents and other relatives, and occasionally with parents[24]). The means of speakers' self-reported proficiency scores in Russian are as follows: understanding spoken Russian[25] = 8.37 (range: 5-10), speaking Russian = 6.74 (4-10), reading in Russian = 4. 79 (1-8), writing in Russian = 3.42 (1-8). In order to determine language proficiency, all sentences produced by heritage speakers were coded and analyzed for two values: the mean length of sentence (MLS) value, which reflects how many words an average sentence produced by each speaker contained, and the total number of errors for all sentences produced by each speaker, defined as overt grammatical (e.g., case, gender, and number agreement) and lexical (e.g., word misuse, calque, borrowing) deviations from the baseline[26]. The mean of MLS

[23] The patterns of tense marking in the sentence-construction data are discussed in Laleko (2010).
[24] Most speakers reported using both languages with parents, switching from one to another depending on the social situation. One speaker noted, "I usually have to remind my parents to speak in Russian to keep the language alive in my family."
[25] Some speakers commented that there are certain registers of Russian that they find easier to understand than others. For example, one speaker added the following explanation: "When answering for 'understanding spoken Russian,' I am mostly referring to conversations, speakers, or movies. I have found that it is more difficult to understand the news when watching a Russian broadcast."
[26] A detailed overview of overt errors attested in the corpus is presented in Chapter 2.

values for the heritage group = 7.08 (range: 4-11). The mean of grammatical errors = 1.63 (range: 0-7), the mean of lexical errors = 2.09 (range: 1-7).

Percentages of correct forms on structural variables have previously been used as a criterion for classifying heritage speakers into proficiency groups. Typically, three such groups are distinguished: low-proficiency (basilectal), intermediate-proficiency (mesolectal), and high-proficiency (acrolectal). For example, in Polinsky's (1995) study, speakers who used correct grammatical forms about 80% of the time or more are classified as acrolectal, speakers producing around 50% of target-like structures are referred to as mesolectal, and speakers considerably below this threshold are taken to represent the basilectal variety. Most speakers in Polinsky's work belong in the latter group. When frequency of overt deviations on structural variables is considered, all speakers in the present study clearly rank in the higher end of the proficiency continuum. First, there were no overt errors with aspect in the production data (for comparison, persistent aspectual errors are documented for speakers in Polinsky's studies). Second, as far as linguistic structural variables are concerned, a large subset of speakers in the present study made no overt grammatical errors[27] at all (9 speakers) or no more than 3 errors (11 speakers) in the total of 20 sentences (average of 141 words per person). Only 4 speakers made more than 4 errors (4-7). Here, these 4 individuals will be referred to as intermediate-to-high proficiency speakers, and the remaining speakers will be classified as high-proficiency speakers. All speakers in the heritage group had at least one (and up to 7) deviation from the baseline standard with respect to lexical choices.

[27] Occasional infelicitous choices involving optional elements, such as redundant determiner-like elements discussed in Chapter 2, are not considered as errors for the present purposes. Here, only choices resulting in ungrammaticality are counted as errors.

The control group for this experiment consisted of 22 adult native speakers of Russian, who took the test in Russia. The mean age for the control group = 30 (range: 22-58), the mean MLS value = 8.28 (range: 5-15). All speakers in the control group reported using Russian and no other languages for all everyday communication, although all speakers had some rudimentary knowledge of English, which was sufficient for the experiment.

#### *4.3.1.3 Results*

Before we turn to the results, a few words about coding are in order. During the coding procedure, all sentences were re-checked against the target phrases to make sure no relevant linguistic material was added or omitted that could affect its original [±SQA] value of the VP. This procedure was necessary for this task, because any addition or deletion of linguistic material in the nominal complex in the direct object position would result in an aspectual reinterpretation of the predicate: for example, a compositionally atelic predicate *read books,* with an [-SQA] bare plural noun, would no longer be considered atelic in the presence of overt quantifiers (e.g., *read <u>many</u> books*) or determiners (e.g., *read <u>these two</u> books*), which would change the feature specification of the object into [+SQA] and thus trigger telic interpretations. Once all instances of reinterpretation in the nominal complex were identified, two sets of calculations were conducted: in the first set, instances of aspectual reinterpretation of the target predicates (instantiated via overt linguistic modification of the VP, such as omission or addition of quantifiers) were excluded from all counts altogether, and only those predicates whose original [±SQA] feature remained intact were counted. In the second set of calculations, the reanalyzed predicates were included, but tagged for the new specification: for

example, if a target [-SQA] object like *books* was used in a sentence with a numeral, e.g. *two books,* the predicate was analyzed as [+SQA], rather than [-SQA]. Both sets of calculations produced virtually indistinguishable results with respect to the distribution of perfective and imperfective forms across conditions, measured in percentages. Data reported here are from the first set of calculations.

The distribution of aspectual forms across the two conditions in the group of heritage speakers fully supports the predictions of the VP-Aspect Hypothesis: as expected, perfective aspectual marking is strongly preferred in the compositionally telic condition, where 81.04% of the target verbs occur in perfective forms in the presence of [+SQA] objects. In contrast, imperfective forms predominate for the same verbs in compositionally atelic contexts, where 93.26% of imperfective forms are observed in the presence of [-SQA] arguments. These results are illustrated in Figure 1 below.

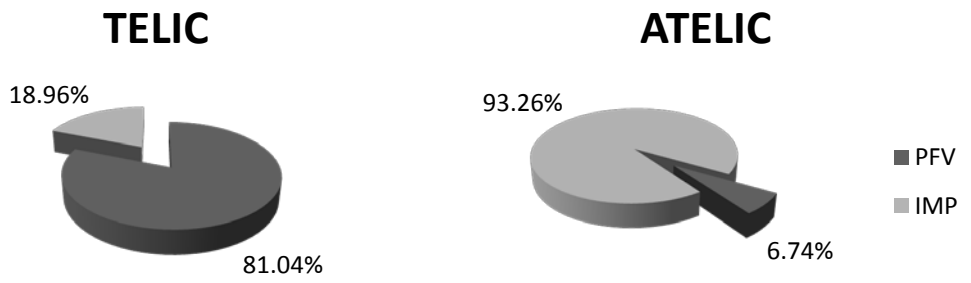



Figure 1: The distribution of PFV and IMP forms in compositionally telic and atelic contexts in heritage Russian.

The distribution of aspectual forms in the data from the Russian speakers in the control group is as follows: in the compositionally telic condition, 33.98% of forms occur in the imperfective, while the remaining 66.02% are perfective. In the atelic condition, a

strong preference for imperfective forms is observed: 96.45% of predicates surface as imperfective and only 3.55% of verbs occur with perfective morphology. Figure 2 below summarizes the results for two groups.

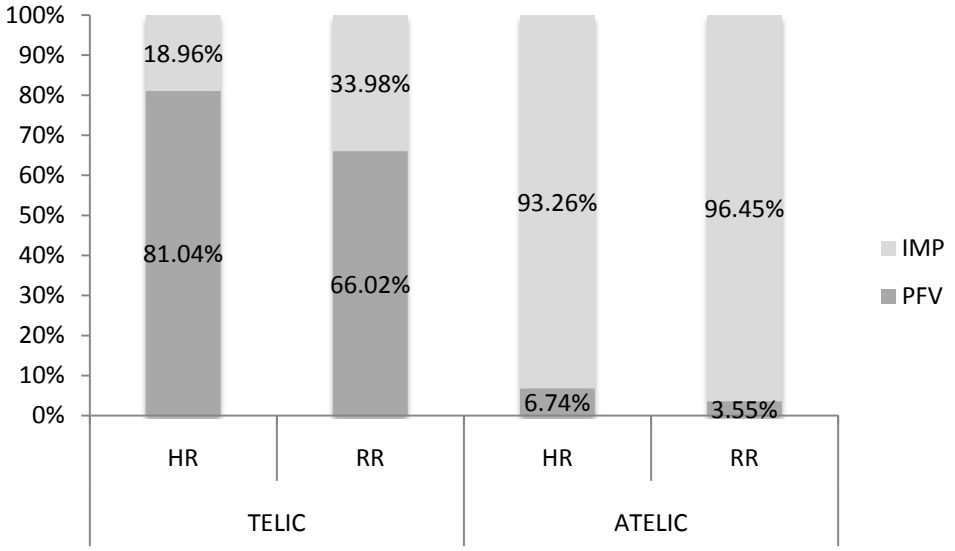



Figure 2: The distribution of PFV and IMP forms in compositionally telic and atelic contexts in the data from heritage speakers (HR) and Russian speakers in the control group (RR).

Results of a one-tailed paired t-test revealed a statistically significant ($p < 0.007$) difference between the two groups in the telic condition with respect to the percentages of imperfective forms used for each test item in each group. Thus, while both groups exhibit a preference for perfective aspectual marking in the presence of [+SQA] objects, heritage speakers use significantly more perfective forms in this condition than Russian speakers in the control group. At the same time, the groups do not differ statistically in the atelic condition, where imperfective forms are strongly preferred by all speakers.

#### *4.3.1.4 Discussion*

The distribution of aspectual forms in the data from heritage speakers supports the VP-Aspect Hypothesis, which maintains that contextual factors outside the verb (particularly, verbal internal arguments) are relevant for the occurrence of viewpoint aspect markers in heritage Russian. These results show that the V-Aspect Hypothesis dominating much previous work on heritage Russian aspect cannot adequately account for aspectual variation with activities and accomplishments observed in the sentence construction data from high- and intermediate-to-high proficiency speakers, where interactions between (a)telicity and (im)perfectivity are found to extend beyond lexical properties of individual verbal roots and into larger linguistic units, such as the VP. Some previous accounts have maintained that aspectual morphology in heritage Russian is not linked to telicity in a compositional sense (Pereltsvaig, 2002; 2005), based on lack of relevant examples in spontaneous production data. However, in the absence of experimental evidence, it is unclear at this point whether aspectual systems instantiated in the grammars of mid- or low-proficiency heritage speakers are genuinely insensitive to compositional telicity effects, or whether such effects may still be observed, perhaps to a different extent than in the acrolectal varieties, with particular types of predicates.

Some intra-speaker variation in the use of aspectual forms is reported in Pereltsvaig (2005: 377), who notes that "even the same speaker will often be inconsistent as to the forms chosen," suggesting that not all verbs appear to lexicalize even on lower levels of the proficiency continuum. This observation presents a potential problem for the account that posits that only one aspectual form is retained for any given verb, while the other one is lost. The fact that the target verbs are attested in both aspectual forms in the

present data points to the conclusion that these forms are not stored as *perfectiva tantum* or *imperfectiva tantum*; instead, both members of the pair are used productively to make meaningful contextual contrasts. This is unexpected under the lexicalization hypothesis, which predicts that only one aspectual form will be used invariably for a given verb, regardless of context. The lexicalization hypothesis allows for two forms to be occasionally retained for some verbs, but, under the view that the aspectual opposition is lost, these forms are predicted to be stored as separate items in the lexicon, rather than as relating to each other as members of an aspectual pair (Polinsky, 1996: 52). For acrolectal varieties of heritage Russian, in which both aspectual forms seem to be retained for a large number of verbs, this assumption cannot be maintained, as it would produce a somewhat undesirable outcome: instead of a reduced lexicon, a typical and well-documented property of heritage languages, we would be forced to posit a bigger lexicon in heritage Russian (in comparison with the baseline variety) in order to accommodate the perfective and imperfective forms of each verb. Overall, data examined here suggests that previous proposals, formulated for basilectal varieties of heritage Russian, whose aspectual systems have undergone total reorganization, do not account well for the aspectual systems of non-basilectal varieties, which still exhibit signs of convergence with the baseline variety while also diverging from it in some respects. Following a review of additional experimental evidence in the following chapter, I will propose a model of aspectual restructuring in advanced heritage grammars that will allow us to account for the areas of divergence and convergence between the two varieties of Russian in a unified and systematic way.

# Chapter 5 Beyond the VP:

## Sentential Aspect and Discourse-Pragmatics

Up to this point, we have considered the formal domain of aspect to be contained within the VP. However, it has become common in recent years to refer to the so-called lexical as well as viewpoint aspect as a sentential category (Smith, 1991; Ramchand, 1997; de Swart, 1998; Sharma and Deo, 2009). It has been argued that verbal classification into types "simply does not apply to lexical verbs at all, but is a property of the verb phrase or sentence as a whole" (Ramchand, 1997: 4), and classifications previously applied to verbs and predicates have further been extended to sentences as describing their eventuality types (de Swart, 1998). Cross-linguistically, it has also been argued that aspectual distinctions related to viewpoint aspect are not limited to the domain of the verb or the verbal phrase, but may be expressed elsewhere in the sentence. The perfective-imperfective contrast has been shown to be expressed by various means at the level of the sentence: for example, by changes in word order in Sudanic languages, by postverbal directional particles in Mokilese, by a change of tone on the subject of the sentence in Yala, or by a clausal (sentential) particle *le* in Mandarin (Al-Tarouti, 2001: 199-201 and references therein). In addition to perfective aspectual functions of *le* at the verb and verb phrase levels, sentential *le* has been shown to exhibit discourse-pragmatic effects, e.g. those related to speaker presupposition (Soh, 2009; Soh and Gao, 2008; Tham and Soh, 2006). Even languages where the aspectual contrasts are expressed in the verb or within the verbal phrase have been argued to exhibit the so-called sentential aspect effects, because the aspectual morphology ultimately characterizes not the verb or

the verbal phrase alone, but affects the interpretation of the entire sentence (Bache, 1995; Comrie, 1976; Dahl, 1985; Verkuyl, 1993).

Lexical and viewpoint aspect are treated at the sentential level in Smith's (1991) two-component theory of aspect. The first aspectual component establishes the situation type of the sentence. Five situation types are distinguished: states, activities, accomplishments, achievements, and semelfactives. The first four situation types are an extension of Vendlerian verb classification to the sentential level; the fifth class is reserved for momentary single events that can occur in series, such as *knock* or *cough*. All situation types except for achievements and accomplishments are atelic. The second component of Smith's (1991) aspectual theory is viewpoint aspect, which is superimposed on the situation aspect and provides a particular "view" of it. The perfective viewpoint presents the situation as a whole (cf. Comrie, 1976), while the imperfective presents a part of a situation, without any information about its endpoints. Thus, a telic accomplishment situation *build a rock garden* can be viewed perfectively, as in *John and Mary built a rock garden last summer* or imperfectively, as in *John and Mary were building a rock garden last summer*.

Prior to Smith (1991), similar distinctions between two levels of aspectual structure have been made in, e.g., Flier (1985) and Timberlake (1985). Timberlake (1985) identifies lexical aspect (semantic properties of predicates in terms of the presence or absence of intrinsic temporal limits) as different from propositional aspect (the temporal perspective supplied by the perfective-imperfective system of Russian in a given proposition). Consequently, perfective aspect presents inherently bounded (telic) or unbounded (atelic) actions as propositionally bounded. Imperfective aspect presents

actions with various inherent specifications as propositionally unbounded. Thus, various viewpoints are determined by the combination of propositional aspect with lexical aspect (cf. Smith, 1991). Chaput (1990) adopts Timberlake's (1985) approach in accounting for aspect choice in Russian questions by examining various combinations of lexical aspect (defined in terms of Vendlerian classes) with propositional aspect (the perfective-imperfective distinction) and appealing to the notion of shifts (e.g., activity-shifts, event-shifts) triggered by viewpoint aspect morphology.

An interplay between eventuality types and aspect is an important element of de Swart's (1998) theory of aspect at the sentential level. This account maintains that temporal information is expressed by a three-way nested structure: in the eventuality description (at the predicational level), aspect, and tense. All sentences are divided, on the basis of eventuality type they denote, into stative sentences (atelic), process sentences (atelic), and event sentences (telic). Aspectual operators (e.g., perfect and progressive, as well as duration adverbials such as *for an hour*) can be applied to eventuality types to map them into different eventuality types (hence, they are referred to as type shifting operators). For example, an event sentence can be mapped into a state sentence by a progressive operator. Some aspectual information is expressed by tense operators at the highest level of sentential structure, a level where tense operators are applied. Scheme in (141) below represents the syntactic structure of a sentence in this model[28]. The (viewpoint) aspectual operators modify the (lexical) aspectual information expressed in eventuality descriptions; tense subsequently locates the eventuality in time.

(141) [Tense [Aspect* [eventuality description]]]

[28] The asterisk indicates that the application of aspectual operators can be recursive.

Most recently, sentential models of aspect have been used successfully in research on aspectual restructuring in language-contact situations. Sharma and Deo (2009) propose an account for aspectual phenomena in L2 Indian English in which they juxtapose the Lexical Aspect Hypothesis (LAH) with the Sentential Aspect Hypothesis (SAH) and show that the latter has a better predictive power than the former in accounting for the occurrence of progressive morphology in past tense contexts. The predictions of the LAH were discussed in Section 3.3 above: in a nutshell, the idea is that lexical aspect (verbal class) will have a strong influence on the acquisition of grammatical morphology, such as tense and aspect markers. The SAH maintains that while lexical aspect contributes to the aspectual interpretation of the sentence, it does not single-handedly determine it: instead, aspectual class of the sentence is determined by the lexical type of the verb in combination with other linguistic material in the sentence, such as type-shifting operators (de Swart, 1998). Sharma and Deo (2009) find that learners whose L1 marks (im)perfectivity are sensitive to the derived aspectual class of sentences, rather than to lexical aspect alone, in their use of aspectual markers in English. The authors argue that due to the overwhelming focus on narrowly defined lexical aspect in previous studies, potential sentential aspect effects in L2 and bilingual language acquisition, such as the contribution of aspectual operators above the lexical predicate, have largely been ignored. This, in turn, makes it difficult to establish whether learners are genuinely sensitive to verbal lexical aspect exclusively, at the expense of sentential aspect, or whether they are sensitive to both (Sharma and Deo, 2009).

On yet a higher level of discourse structure, aspectual effects have been found to extend beyond the sentential level and correlate with the narrative structure at large. In

the last thirty years, many researchers have analyzed aspect as a discourse-level category, rather than strictly a sentential category (Hopper, 1982; Chvany, 1985, 1990; Fielder, 1990, *inter alia*). The perfective-imperfective contrast has been shown to be associated with discourse-pragmatic functions, e.g. in contributing to the unfolding of events in a narrative at large and signaling foreground and background information in a text. Hopper (1982: 5) suggests that "the fundamental notion of aspect is not a local-semantic one but is discourse-pragmatic."

In the remaining parts of this chapter, I will examine the aspectual system of heritage Russian at the sentential level, with a special focus on the discourse-pragmatics interface. I will argue that, even in the absence of overt errors in aspect, the aspectual system instantiated in acrolectal varieties of heritage Russian can differ from the one in the baseline Russian grammar. The covert restructuring will be shown to affect the highest level of sentential structure, a domain in which linguistic information in the sentence is mapped onto contextual discourse-pragmatic information. As a result of a gradual reduction and loss of pragmatically-determined functions of the imperfective, such as the general-factual imperfective (Section 5.1.1 below), the privative aspectual opposition of baseline Russian shifts towards the opposition of the equipollent type.

In treating aspect as an equipollent opposition, heritage speakers associate aspectual values with specific meanings that are under-generalized compared to those in the baseline variety. This pattern is consistent with the one-to-one principle proposed by Andersen for language acquisition, which states that "the emergent grammar of a learner associates one meaning with one form" (qtd. in Bardovi-Harlig, 1995: 120). In baseline Russian, the imperfective aspect allows for a wider range of meanings than the perfective

aspect: while the latter is associated primarily with the notion of completion or temporal delimitation, the imperfective aspect can be used in reference to completed as well as incomplete events. Instead of a single invariant meaning, the imperfective aspect yields a range of meanings determined by contextual and pragmatic cues (these meanings are discussed in Section 5.1 below). Thus, the imperfective aspect is traditionally analyzed as an unmarked (underspecified) member of a privative aspectual opposition, which in certain contexts may take on some properties of the marked member, the perfective aspect, such as in reference to a single total event (Section 5.1.1). The same is not true of the marked member of the aspectual opposition, whose distribution range is considerably more restricted.

## 5.1 Russian Aspect as a Privative Opposition

The development of the structuralist tradition in the twentieth century has led to the treatment of the perfective-imperfective aspectual opposition as a system and raised important questions about the nature of the relationship between perfective and imperfective aspects. Work by members of the Prague School, and especially Roman Jakobson, introduced and developed the notion of primitive binary oppositions, i.e., oppositions of two elements, defined in terms of distinctive features. The theory of oppositions was initially applied to phonology, but was subsequently extended to other domains of linguistic study, such as semantics, morphology, and syntax. Binary oppositions are generally characterized as privative, equipollent, or gradual. Our focus will be on the first two types of binary oppositions, which are distinguished on the basis of the notion of markedness, as defined in terms of presence or absence of linguistic features. The notion of gradual oppositions, in which two members are distinguished on

the basis of degree of the same property, does not rely in a principled way on the notion of markedness; thus, we will not discuss gradual oppositions at length at this point.

In a privative binary opposition, one of the members is marked for a certain property or feature, such as [+A], while the other member, which stands in the opposition to the marked member, is not marked for that property or feature. The feature in question may or may not be present in the second member; for all we know, the member is simply unmarked, or carries no single feature specification. This property of the unmarked member can be represented as [±A] (no indication of A). Because the unmarked member has no pre-defined feature specification, its distribution is not restricted with respect to that feature. Thus, it is able to occur in [+A] contexts as well as in [-A] contexts, although, in the absence of contextual or pragmatic cues that specifically trigger [+A] interpretations, the unmarked member is typically interpreted as [-A][29]. The concept of privative markedness relationships is described by Jakobson as follows: "[t]he general meaning of a marked category states the presence of a certain … property A; the general meaning of the corresponding unmarked category states nothing about the presence of A, and is used chiefly, *but not exclusively*, to indicate the absence of A" (qtd. in Kučera, 1980, *italics added*).

There are certain formal, semantic, and distributional criteria that distinguish the marked members of privative opposition from the corresponding unmarked members. On the formal side, the marked member usually carries an additional morphological marker in contrast to the unmarked member, which has no such marker and is thus said to be

[29] This observation is consistent with the Gricean maxim of Quantity: the speaker is assumed to provide the hearer with as much information as necessary in order for the hearer to arrive at the intended interpretation with the least amount of effort. The hearer may thus assume that since the speaker did not use the member that is specifically marked as [+A], (s)he must have a [-A] interpretation in mind.

characterized by “zero expression.” Semantically, the range of meanings of the unmarked member is considerably wider than those of the marked member. As a result, the two members differ in their distribution: while the marked member occurs in a relatively narrow set of contexts, the unmarked member has a greater range of distribution and in some contexts can compete with (or be used instead of) the marked member. This phenomenon is known as “contextual neutralization.” The unmarked member can replace the marked member, given the right contextual conditions, thus neutralizing the differences between the two relative to the context.

In an equipollent binary opposition, in contrast, there is no unmarked member. Both members are marked in a way that makes them logically complementary: one carries a positive specification, such as [+A], while the other member is marked for the absence of the same feature, [-A]. Each member may be seen as a mirror image of the other member, only displaying opposite characteristics; the two members cannot be used interchangeably due to different (i.e., opposite) semantic specifications. Usually, there is no single morphological marker that systematically distinguishes one member from the other one.

In order to illustrate the difference between privative and equipollent oppositions, let’s examine the following pairs of words:

(142) a. *actor-actress, host-hostess, lion-lioness*

b. *brother-sister, nephew-niece, father-mother*

Each pair contains two members contrasted on the basis of one feature, in our case gender: in both sets, the first member in each pair is taken to refer to a male being and the

second member, to a female being. However, the three pairs in (142) (a) represent privative oppositions (one member is marked with respect to gender and the other one is unmarked), while members of the three pairs in (142) (b) are in equipollent oppositions (they are equally logically marked). First, we will consider oppositions of the privative type shown in (142) (a). By the criterion of zero expression, the second item in each pair appears to be marked: the first member shows zero morphological expression of the gender feature, while the second member carries an overt suffix *-ess*, which is an overt gender marker. Further, only the second item in each pair carries a semantic entailment of feminine gender, while masculine gender reference in the first member is, at best, an implicature. The criterion of contextual neutralization also points to the marked status of the second member in each opposition: in certain contexts, the unmarked member may be used instead of the marked member, but not vice versa. We can refer to a female performer as an actress or, more generally, an actor[30], but we cannot refer to a male performer as an actress. In contrast, neither member in (142) (b) carries an overt morphological marker of the feature in question (i.e., gender); each member carries a semantic entailment of gender specification, and no contextual neutralization with respect to gender is observed. This is typical of an equipollent opposition, in which both members are logically equivalent.

In relation to the Slavic aspectual opposition, the perfective aspect is traditionally analyzed as the marked member of the privative opposition, while the imperfective is the unmarked member, with a broader range of functions (Forsyth, 1970; Comrie, 1976;

[30] For example, Anna Akhmatova, one of the most prominent Russian authors of the Silver Age, spoke of herself only as a poet, never as a poetess, emphatically setting herself apart from other women writers of the era. More recently, such movie stars Gwyneth Paltrow and Sigourney Weaver have referred to themselves using the term actor, rather than actress.

Rassudova, 1984; Chvany, 1990; Binnik, 1991, *inter alia*). Consider, for example, the binary opposition *chital*.IMP *knigu* 'read book' and *prochital*.PFV *knigu* 'read book' in (143) below. While the imperfective verb may be interpreted as referring to a completed or an incomplete event, the perfective verb only refers to a complete book-reading event. The two aspectual forms compete in the context where reference is made to a completed event (crucially, both forms are grammatically acceptable, despite subtle nuances in meaning, which will be addressed in the next section).

(143) a. Maxim vchera chital knigu.
Maxim yesterday read.IMP book.ACC
'Maxim read a book/was reading a/the book yesterday'

b. Pavel vchera prochital knigu.
Pavel yesterday read.PFV book.ACC
'Pavel read a/the book yesterday'

Characterization of Slavic aspect in Jakobsonian privative terms goes back to some of the earliest work on the subject. For instance, Ferrell (1951) provides the following definition of the perfective aspect: it is "characterized by completeness of revelation in respect to the predicate phrase, semelfactiveness of action in respect to the subject …. [and] by completion of the action prior to the inception of the action of another verb in the perfective aspect in the main clause," while the imperfective is defined simply as "uncharacterized in these respects" (p. 135). Forsyth (1970) also provides the invariant definition for the perfective aspect, as a view of the event as a whole, but the definition for the imperfective aspect is stated in negative terms, no statement about the event as a whole. It has generally become customary to define

perfectivity on the basis of a positive value, such as terminativity (reaching of a boundary), while leaving the definition of the imperfective aspect open, e.g. by saying that it is "neutral" with respect to the feature for which the perfective is defined, such as the reaching of a boundary (Leinonen, 1982 and references therein). In Merrill's (1990) terms, the unmarked imperfective aspect asserts only that the situation denoted by the predicate existed, while the marked perfective aspect is semantically more narrowly specified: it makes the assertion that the situation existed plus the assertion that it reached its terminus (p. 315). In other words, while perfective gives rise to the entailment of completion, imperfective may (but does not need to) give rise to pragmatic inferences of completion, if used in appropriate contexts (examples are provided in Section 5.1.1 below).

Another criterion of markedness, contextual neutralization, allows the unmarked member to appear in the same contexts as the marked member, but not vice versa. As expected of the unmarked member of a privative opposition, the imperfective aspect can be used in contexts where the marked member (the perfective aspect) can also be used. According to Binnik (1991: 152), "[t]he imperfective is clearly the unmarked term of the aspectual opposition in Russian, not only because it lacks a specific positively defined meaning…, but because it freely competes with the perfective." The phenomenon of aspectual competition is well-documented for Russian (Binnick, 1991; Rassudova, 1984; Leinonen, 1982, *inter alia*), where the use of the imperfective aspect is licensed with single total events under certain discourse-pragmatic conditions. These conditions give rise to what is known as the general-factual imperfective (we will discuss the general-factual imperfective in Section 5.1.1 below).

A detailed treatment of the meanings and functions of the imperfective is provided in Rassudova (1984: 16-17), who distinguishes three main meanings of the Russian imperfective: the concrete-processual meaning (cf. in-progress or ongoing/progressive meaning), the indefinite-iterative meaning (cf. habitual meaning), and the general-factual meaning. The general-factual meaning of the imperfective, itself often described as a cluster of more specific meanings or shades of meaning (as we will see in sections below), has been argued to be one of the defining features of the Slavic aspectual system and is frequently cited as the key argument for the unmarked status of the imperfective aspect in a privative opposition (Dickey, 2000). It is the general-factual meaning of the imperfective that enters the territory otherwise occupied by the perfective aspect, creating aspectual competition. The latter phenomenon is described in Rassudova (1984) as follows: "[v]erbs of different aspects become similar in meaning, and although it is impossible to speak here of synonymy, conditions for aspectual competition are created." Occurrence of the imperfective in contexts where the perfective aspect might otherwise be expected is exactly what we expect from the unmarked member of the aspectual opposition per the criterion of contextual neutralization in a binary opposition of a privative type.

### 5.1.1 The General-Factual Imperfective

The so-called general-factual imperfective, also known as the generalized-factual imperfective, general-factual presupposition imperfective, or the statement of fact imperfective[31] (Forsyth, 1970), is used "simply to confirm the occurrence of an action, without reference to specific circumstances" and to "[assert] the occurrence of the

[31] The terms used in Slavic aspectology are *konstatatsija fakta* or *obshefakticheskoje znachenie.*

situation in question in general, without reference to any contextualizing background information" (Dickey, 2000: 95). The general-factual imperfective is a "prime example" of aspectual neutralization: imperfective with the general-factual presupposition may refer to single completed actions (normally associated with perfective), although the imperfective aspect is "concerned with general experience" (Dickey, 2000: 96), rather than with the idea of completion. Rassudova (1984: 54-55) discusses the general-factual imperfective in comparison with the perfective aspect and argues that the former can be described as ambiguous compared to the latter. The perfective aspect "denotes an integral, single, demarcated action" and the imperfective "does not convey unambiguous information; it does not specify whether the action was completed or not completed, or whether it took place once or more than once"; in disambiguating among various possible meanings, the relevant information comes from the context or situation (Rassudova, 1984: 54).

Compare three examples below, which illustrate three main meanings of the Russian imperfective, as summarized in Rassudova (1984). In each pair of sentences, the example in (a) illustrates a particular meaning of imperfective: the general-factual in (144), the progressive (ongoing) in (145), and the habitual in (146). Examples in (b) illustrate the use of the perfective aspect in the same context. Note that the substitution of the perfective aspect for the imperfective aspect is acceptable only in its general-factual use in (144), but not with the remaining functions of the imperfective, progressive and habitual:

(144) a. Ya chital Vojnu i Mir v universitete.
I read.IMP war and peace in college
'I read *War and Peace* in college'

b. Ya prochital Vojnu i Mir v universitete.
I read.PFV war and peace in college
'I read *War and Peace* in college'

(145) a. Ya chital Vojnu i Mir s dvux do pjati chasov.
I read.IMP war and peace from two till five hours
'I was reading *War and Peace* from 2 to 5 o'clock'

b. *Ya prochital Vojnu i Mir s dvux do pjati chasov.
I read.PFV war and peace from two till five hours
'I was reading *War and Peace* from 2 to 5 o'clock'

(146) a. Inogda po vecheram ja chital Vojnu i Mir.
sometimes in evenings I read.IMP war and peace
'Sometimes in the evenings I would read *War and Peace*'

b. *Inogda po vecheram ja prochital Vojnu i Mir.
sometimes in evenings I read.PFV war and peace
'Sometimes in the evenings I would read *War and Peace*'

In a situation of aspectual competition, e.g. in (144) above, both aspectual options are available. The preference for one aspect over the other derives from the speaker's communicative goals (Rassudova, 1984: 55). On the basis of these goals, the general-factual imperfective can be classified into several types, reflecting some of its major

functions: statement of fact, reversed action, and backgrounding. These variants of the general-factual imperfective are addressed in the following sections.

#### *5.1.1.1 Statement of Fact*

Forsyth (1970: 82) maintains that the spectrum of general-factual imperfective meanings is dominated by the "declarative" function of the imperfective. Use of an imperfective form with this meaning gives rise to what is known as a bare statement imperfective, a statement of fact imperfective, "simple denotation" imperfective (Forsyth, 1970), or statement of existence of fact imperfective (Leinonen, 1982). As suggested by the labels, the imperfective with this meaning serves as a declaration that the action denoted by the predicate did occur. For example, the imperfective form can be used to assert that a certain event took place, as in (147) below:

| | | | | | |
|---|---|---|---|---|---|
| (147) | Ja | chital | Voinu | i | Mir. |
| | I | read.IMP | war | and | peace |
| | 'I have read *War and Peace*' | | | | |

The statement of fact imperfective frequently occurs in questions. Use of the imperfective rather than perfective form in a question about a certain event is pragmatically determined and correlated with the shared knowledge between the speaker and the addressee. In questions about whether a certain action did or did not occur, use of the aspectual form reveals the presence or absence of expectations on behalf of the speaker with respect to the occurrence of that action. The imperfective is used to signal that the speaker does not assume that the action denoted by the imperfective verb has been performed. Dickey (2000: 20, citing Israeli, 1996) describes this use of the

imperfective in terms of the shared knowledge between the speaker and the addressee as follows: if the discourse participants share the same presupposition that the performance of the action was expected, then the perfective form will be used; use of the imperfective form will signal the absence of a shared presupposition. Consider, for instance, the following examples (adapted from Dickey, 2000: 20-21):

(148) a. Vy prochitali Voinu i Mir?
you read.PFV war.ACC and peace.ACC
'Did you read War and Peace [as you were told]?'

b. Vy chitali Voinu i Mir?
you read.IMP war.ACC and peace.ACC
'Have you [ever] read War and Peace?'

The question in (148) (a) could be asked by a teacher who had assigned the reading of *War and Peace* and now wants to know if the students completed the assignment, as expected. The perfective form *prochitali* 'read' brings into focus the reaching of *telos* of the discussed event, i.e. the completion of the book. However, whether or not *telos* is realized is not relevant for the question in (148) (b), in which the speaker wants to know whether or not the event took place at all. There are no *a priori* expectations on behalf of the speaker that the event was supposed to take place.

This use of the imperfective is discussed in Rassudova (1984: 60-61), who provides the following examples:

(149) a. Nu kak, vy sjezdili v Leningrad?
PTL how you went.PFV in Leningrad
'Well, did you go to Leningrad?'

b. Vy ezdili v Leningrad?
you went.IMP in Leningrad
'Did you go to Leningrad?'

When using the perfective form in (149) (a) "the speaker assumes that the action must have been performed… it is implied that the collocutor had wanted and intended to go to Leningrad, and we are interested in whether his intention was realized" (Rassudova, 1984: 60). In English, an equivalent question could be something along the lines of "So, did you finally make it to Leningrad?" or "Did you end up going to Leningrad?" Both questions are only felicitous when the speaker already knows about the addressee's trip plans and now wants to know if these plans were realized. No such assumption is present in (149) (b), where the imperfective form is used.

#### *5.1.1.2 Reversed Action*

Imperfective verbs in Russian can designate actions with results that have subsequently been annulled, without explicitly specifying how or when these results were annulled or reversed. This contextually-determined use of the imperfective is also known as "annulled result" (Smith, 1991) or "two-way action" (Forsyth, 1970; Leinonen, 1982). Consider the following examples:

(150) a. Kto-to dnem otkryl okno.
somebody.NOM daytime opened.PFV window.ACC
'Somebody opened the window earlier today [and it's still open]'

b. Kto-to dnem otkryval okno.
somebody.NOM daytime opened.IMP window.ACC
'Somebody opened the window earlier today [but it's now closed]'

Use of the imperfective form *otkryval* 'opened' in (150) (b) signals that the window had been opened at some point, but then subsequently closed again at a later point in time (cf. Leinonen, 1982: 200-207; Dickey, 2000: 110-111). The latter part is inferred, rather than entailed; this is illustrated in example (151) below, where an added clause 'and it is still open' cancels out (or takes away) the annulled result inference and coerces the interpretation of *otkryval*.IMP into a statement of fact imperfective:

(151) Sasha dnem otkryval okno. Ono i seichas otkryto.
Sasha daytime opened.IMP window.ACC it.NOM and now open
'Sasha opened the window earlier today, and it is still open now'

Another example of a reversed action imperfective is given in (152).

(152) Maxim bral etu knigu v biblioteke.
Maxim took.IMP this.ACC book.ACC in library.PREP
'Maxim got this book from the library [and he no longer has it]'

As noted in Leinonen (1982), the meaning of the reversed action imperfective is fully dependent on context and pragmatic inferences. Under the reversed action reading,

sentence in (152) can be interpreted as stating that Maxim has returned the book to the library; however, this is not the only possible interpretation.

Rassudova (1984: 68-69) points out that the existence of an antonym is an important factor for the availability of the reversed action reading for a given verb. Some verbs, particularly those that express motion or movement and have counterparts that denote movement in the opposite direction, produce the reverse action imperfective readings most easily. Some examples of such verbs are represented by pairs like *arrive-leave, open-close, turn on-turn off, raise-lower, come in-go out, take-give, put on-take off*. In such pairs, use of the imperfective form creates an annulled result effect by evoking a reference to the other member of the pair.

#### *5.1.1.3 Thematicity and Backgrounding*

The imperfective form can be used to mark the verb as a thematic element in the utterance, when the focus is located elsewhere[32] (Forsyth, 1970; Leinonen, 1982). The imperfective verb in this function is unstressed, and the main emphasis is placed on the subject, object, or circumstances of the action, but crucially not on the action itself or its results. Fielder (1990: 264) maintains that use of the imperfective aspect in statement of fact contexts allows one to avoid the meaning of result. Similarly, in Chaput's (1990: 303) account, the emphasis on result is associated with the perfective aspect, while the imperfective is associated with emphasis on the process of carrying out the action or on specifics of the action. In the words of Forsyth (1970: 84), "the aspectual neutrality" of the imperfective "permits its use …in sentences in which the main logical emphasis is put

[32] Here, the notions of topic (theme) and focus (rheme) are used in the relational givenness-newness sense as discussed in Gundel and Fretheim (2003), to refer to the presupposed (old) and asserted (new) parts of the utterance, respectively.

not on the verb itself, but on some other element in the sentence." Thus, imperfective forms can express "defocalization of events" in discourse (Thelin, 1990: 68). Consider, for instance, the example in (153).

(153) Gde vy pokupali etu kurtku?
where you bought.IMP this jacket
'Where did you buy this jacket?'

Even though the sentence unambiguously refers to a completed single event (the jacket had already been bought), the imperfective form of the verb *buy* is used because the question is not about whether or not the act of buying the jacket was completed, but about where it took place. The main stress is on *gde* 'where,' which is the main element of the utterance. The verb *pokupali* 'bought' is left in the background.

The linguistic phenomenon of foregrounding and backgrounding, subsumed under the umbrella label "grounding" (Chvany, 1985), pertains to the use of linguistic devices in discourse. Elements that are foregrounded are commonly identified as those deemed to be important to plot development and to move the story line ahead, while elements in the background represent supporting material. Leinonen (1982) describes foregrounding and backgrounding as primary and secondary information in discourse, respectively. Analyses of grounding in discourse have shown "clear clustering of certain grammatical categories in the foreground, of the opposite categories in the background" (Chvany, 1990: 217). Hopper's (1979, 1982) theory of aspect as a discourse category associates the perfective-imperfective distinction in discourse with the foreground-background distinction. Forms in the foreground are argued to have a higher degree of assertiveness

(i.e., they assert the occurrence of events[33]), while forms in the background are perceived as commentary and associated with a lower degree of assertiveness (Leinonen, 1982: 63). In Russian, perfective aspect predominates in the foreground, while the imperfective aspect more often creates a backgrounding effect, particularly in past tense narratives, where it serves as an "index of background" (Chvany, 1985). In Leinonen's (1982: 64) analysis, the general-factual imperfective does not convey meanings that deal with the "shape" of the action (such as its temporal contour); rather, it "deals with differential weighting of situations as units of information." In the absence of grammatical restrictions on the use of the imperfective with completed actions, which leads to aspectual competition, the choice between perfective and imperfective forms is motivated by information structural demands: in the words of Hopper (1979: 218), the perfective aspect is used where "there is a high degree of topicality in the subject" while "the predicate of the verb is the focus of the sentence"; on the contrary, the imperfective aspect "is elicited whenever this distribution is disrupted, that is, when the verb and its complements do NOT together represent the newly imparted information." The backgrounding function of the imperfective thus represents the outcome of a close interaction between the information-structural partition of the sentence into old and new information, on the one hand, and discourse backgrounding (importance to the story line), on the other. General-factual imperfective marks situations that are taken to be old information and are at the same time backgrounded in discourse.[34]

[33] An event is "a dynamic situation that is not extended in time" (Lyons, 1977: 483). The term "dynamic" indicates the fact that something happens, rather than simply exists (Leinonen, 1982: 65). To use Vendlerian classification, activities, accomplishments, and achievements are said to be eventive predicates because they are used to describe events, while stative predicates denote non-events, or states.

[34] Leinonen (1982: 64) notes that the extent to which old information is always backgrounded is a matter of debate. We will not pursue these distinctions here, keeping the two notions separate.

Schoorlemmer (1995) refers to the backgrounding function of the imperfective as 'telic presupposition'. Similarly, Leinonen (1982) discusses the concept of presupposition in relation to this use of general-factual imperfective: "both participants in the speech situation are aware that a total event referred to by the imperfective form has taken place" (p. 190); in other words, reference to a total (completed) event is presupposed, rather than asserted. Leinonen (1982: 195) points out that, as first noted by Vinogradov, the imperfective forms with single total events may signal "normality" and "usualness" of the event mentioned; thus, their use is accounted for by reference to the so-called script situations, or situations that describe predetermined, stereotyped, expected sequences of actions. For languages that have definite and indefinite articles, the presence of a script situation makes it possible for speakers to use nouns with a definite article even when they had not been mentioned in previous discourse and are not immediately present in the surrounding context. Similarly, predicates in Russian can be thematic without being explicitly mentioned in the preceding discourse; here, our knowledge about the world is said to activate a particular familiar script. For example, the typicality or usualness of the action of buying a cake in a birthday situation is signaled by the imperfective aspect in (154) below:

| | | | | | |
|---|---|---|---|---|---|
| (154) | Tebe | kakoi | na den' | rozhdenija tort | pokupat'? |
| | you.DAT | which.ACC | on day.ACC | birth.GEN cake.ACC | buy.IMP.INF |
| | 'Which cake should I get you for your birthday?' | | | | |

Here, use of the imperfective form implies that it has already been decided that a cake will be bought, either because there was an earlier conversation about this or because it is done as a general rule. In both instances, the event is perceived as definite: in the former

case, because it had been mentioned in previous linguistic discourse, and in the latter case, the source of definiteness is world knowledge (e.g., a general understanding that people get cakes for their birthdays).

## 5.2 Heritage Russian Aspect: Interface Vulnerability and the C-domain

In what follows, I will attribute the patterns of aspectual marking observed in the sentence construction experiment (Section 4.3.1) in the data from heritage speakers, who exhibited a statistically significant difference from monolingual speakers on their use of imperfectives with compositionally telic predicates, to a covert aspectual restructuring at the C(omplementizer)-domain, the highest structural level of syntax which anchors information at lower levels of the sentence (grammatical information) to discourse-pragmatics. Following Platzack (2001), who builds on recent minimalist assumptions about sentence structure (Chomsky, 1995; Rizzi, 1997), I take the sentence structure as consisting universally of three phrases: the VP, the IP, and the CP, organized hierarchically as shown in (155) below. The CP phrase is the highest level of sentential structure, known also as the C-domain. The two lower phrases, IP and VP, together form a level known as the I-domain. The function of the C-domain is "to close the I-domain" – i.e., to link information encoded at VP and IP levels to discourse (Platzack, 2001, after Rizzi, 1997).

(155) [CP [IP [VP]]]

Previous research has identified several populations of language speakers, called the C-group, whose linguistic behavior tends to remain fully target-like on lower syntactic levels while exhibiting divergent patterns at the C-domain: very early L1

learners, language-impaired L1 learners, including children with Specific Language Impairment[35] (SLI), L2 learners, and patients with Broca's aphasia (Avrutin, 1999; Platzack, 2001). The remaining sections of this dissertation will argue that advanced heritage speakers of Russian exhibit C-domain effects in their acceptability and interpretation of aspectual contrasts, while behaving in target-like ways in the I-domain, which warrants their inclusion in the C-group along with the other populations recently mentioned.

The idea that the intersections between linguistic modules are particularly vulnerable in language development (Sorace, 2005) is known as the Interface Vulnerability Hypothesis (IVH) in language acquisition research. The IVH maintains that linguistic phenomena regulated at the interfaces among different linguistic modules (such as syntax and semantics, syntax and pragmatics) are more problematic in language development than phenomena regulated within a single linguistic module (e.g., syntax). Phenomena at the syntax-pragmatics interface have further been found to pose the greatest challenges to language acquirers because they not only involve integrating various types of knowledge across domains, but also require simultaneous processing of linguistic and non-linguistic material and generally need extensive linguistic exposure to be fully acquired. Following an overview of studies exploring the IVH hypothesis and a summary of its predictions in relation to heritage language acquisition, provided in Section 5.2.1 below, Sections 5.2.2 and 5.2.3 present experimental evidence to argue that advanced heritage grammars exhibit interface vulnerability effects in their interpretation and acceptability judgments of the imperfective aspect with single total events. Because

[35] These populations display a deficit in language proficiency that is not associated with any physical disorder (see, e.g., Hansson and Leonard, 2003; Bastiaanse et al., 2002).

the imperfective is the underspecified (unmarked) member of the Slavic aspectual opposition with a wide range of functions (including those of the marked member), its target-like use involves successful resolution of aspectual competition, which in turn requires sensitivity to contextual information and understanding of subtle pragmatic nuances as factors that license its use in given contexts. In light of the recent findings in the IVH literature, this area is likely to present potential difficulty in heritage acquisition, which takes place under limited linguistic input.

Following the discussion of empirical data from two additional experiments, designed to examine the acceptability and comprehension of the imperfective aspect with completed actions, I return to the findings of the production experiment discussed in Section 4.3.1 above. I revisit and refine the account of the distribution of perfective and imperfective forms in telic and atelic contexts observed in production in light of additional evidence from comprehension tests. Results of a scaled acceptability judgment task (Section 5.2.2) and a forced choice comprehension task (Section 5.2.3) confirm the pattern previously observed on the sentence construction task, pointing to a statistically significant decrease not only in use, but also in the acceptability as well as accuracy of interpretation of the general-factual imperfective with total single events in heritage Russian.

In accounting for the obtained experimental findings, I propose the following generalization: as a result of reduction in the range of pragmatically-determined meanings of the general-factual imperfective, which contribute to the unmarked status of the imperfective aspect in baseline Russian and more generally to the privative nature of the Slavic aspectual opposition, the aspectual opposition in acrolectal varieties of heritage

Russian shifts towards an opposition of the equipollent type. In Section 5.3.3 below, I propose a unified account for the areas of divergence as well as convergence between the heritage and monolingual grammars: while the two aspectual systems largely converge in the I-domain, including the VP and IP levels, they diverge in the C-domain. The imperfective aspectual marking with compositionally atelic predicates is regulated in the syntactic component of the grammar, where the derived aspectuality of the VP projects directly onto the sentential level. Here, the two aspectual systems are found to be virtually indistinguishable. In contrast, the imperfective marking with compositionally telic predicates is determined at higher syntactic levels, including the level of interface between the module of syntax and semantics (the IP level) and syntax and discourse-pragmatics (the CP level). As we shall see shortly, the heritage grammar diverges from the target grammar precisely in those contexts where syntactic knowledge must be integrated with discourse-pragmatic knowledge. Because this divergence does not lead to ungrammaticality in a strict sense, I refer to it as a covert restructuring of the aspectual system.

### 5.2.1 Interface Vulnerability Hypothesis

Recent theoretical approaches describe language as a system of several semi-autonomous modules interacting with each other. In this model, successful language acquisition involves not only learning the modules of language individually, but also learning the principles of interaction between the modules, known as interfaces. The term ‘interface’ refers to mapping between sub-modules of language (e.g., syntax, semantics, phonology, morphology) or between language and external cognitive systems (Avrutin, 1999; Bos, Hollebrandse, and Sleeman, 2004; Sorace and Serratrice, 2009). Based on the

type of mapping configuration, such as whether the link is between two linguistic domains, or between a linguistic domain and non-linguistic domain, interfaces are labeled as internal or external. External interfaces (and, particularly, the syntax-pragmatics interface, also known as the C-domain, in which contextual information is mapped onto the grammar) have been shown to posit special difficulties for language learners (Avrutin, 1999; Sorace, 2005; Rothman, 2009; Sorace and Serratrice, 2009).

Instability (or vulnerability) of morphosyntax in linguistic domains regulated by pragmatic factors has been the subject of extensive research in bilingual language development literature in the recent years (Hulk and Müller, 2000; Müller and Hulk, 2001; Sorace, 2004, 2005; Tsimpli et al. 2003; Tsimpli et al., 2004; Tsimpli and Sorace, 2006; Argyri and Sorace, 2007; Sorace and Serratrice, 2009). Studies have revealed consistent differences between bilingual and monolingual children and adults on a selected number of pragmatically conditioned properties, such as inappropriate acceptance of overt subjects in a null-subject language like Italian (Tsimpli et al., 2004) or infelicitous use of pre-verbal subjects in wide-focus contexts in Greek (Argyri and Sorace, 2007). Avrutin's (1999) analysis of pronominal dependencies and *wh*-questions in the data from young children and aphasic patients has revealed that operations that integrate the knowledge of syntax with discourse-pragmatic knowledge require more processing efforts than purely syntactic operations and are hence more problematic for these populations. Most recently, the syntax-pragmatic interface has been shown to pose special difficulties even for monolingual adult native speakers, who have been found to experience occasional processing limitations and exhibit inaccuracies in production and comprehension of linguistic material regulated in the C-domain. Since violations at the

syntax-pragmatics interface do not lead to clear ungrammaticality (but, rather, to infelicity, redundancy, or contextual inappropriateness), competent native speakers do not always perform at ceiling on tasks targeting the C-domain, showing gradient acceptability instead (Sorace and Serratrice, 2009 and references therein). For example, recent studies on adult monolingual processing of null and overt pronouns in Italian and Spanish, cited in Sorace and Serratrice (2009: 202), find that competent mature native speakers make the pragmatically optimal choice of pronominal form only approximately 80% of the time, suggesting that processing operations at the syntax-pragmatics interface are costly because they involve activation, competition, and coordination between different types of information from separate domains.

The fact that monolingual native speakers, traditionally taken to represent the 'control group' in linguistic research, do not always perform at ceiling on certain tasks suggests that the notion of grammatical acceptability is at least in some cases best viewed as a gradient, rather than categorical notion. Sorace and Keller (2005) provide a detailed discussion of the issue of gradience in linguistic data, placing an emphasis on a distinction between hard and soft constraints in linguistic research. Hard constraints are purely syntactic, while soft constraints involve the mapping between syntax and lexical semantics, pragmatics, and information structure (Sorace, 2005). Only hard constraints can be expected to trigger categorical linguistic judgments, while violations of soft constraints typically result in mild unacceptability and trigger gradient judgments. Soft constraint violations are typically context-dependant, i.e. they can be more or less acceptable depending on the surrounding context. The difference between soft and hard constraints is particularly evident in advanced developing grammars: it has been

proposed that while soft constraints are generally subject to developmental optionality in advanced stages of language acquisition, hard constraints are immune to optionality effects (Sorace and Keller, 2005: 1513). Evidence from studies on language development suggests that near-native bilingual speakers successfully avoid hard constraint violations, but often still exhibit non-target-like behavior with respect to soft constraints.

Potential sources of interface vulnerability in child and adult bilingual acquisition are examined in Sorace and Serratrice (2009), who attribute non-target-like behavior on C-domain properties to such factors as underspecification, cross-linguistic influence, quantity and quality of the input, and processing limitations experienced by language acquirers. In previous work, cross-linguistic influence had been taken to be the primary interfering factor affecting phenomena regulated by the interface with discourse-pragmatics in bilingual populations, provided that there is sufficient structural overlap between the languages involved (Hulk and Müller, 2000; Müller and Hulk, 2001). Sorace and Serratrice (2009) argue that difficulties faced by bilinguals in coordinating syntactic information with contextual discourse-pragmatic information are related to processing factors, and that structural overlap between languages plays a less defining role. The authors argue that phenomena at internal interfaces, such as the syntax-semantics interface, are more likely to be affected by the extent of structural overlap than by processing difficulties. The conclusions are based on two studies involving Italian and English, in which the authors examine the distribution of overt and null subject pronouns and the use of definite articles in specific and generic plural noun phases (Sorace and Serratrice, 2009).

The authors conclude that the challenges posed by the syntax-discourse interface differ from those posed by the syntax-semantics interface in bilingual language acquisition: while the latter interface involves formal semantic features that are internal to the grammar, the former involves pragmatic and contextual information external to grammatical representations. Both interfaces are sensitive to quantitatively limited input. Based on the overall findings, Sorace and Serratrice (2009) make further predictions about the status of interfaces in L2 acquisition and L1 attrition. For L2 acquisition, the authors predict "potentially permanent optionality with respect to structures and the syntax-discourse interface, but not with respect to those at the syntax-semantics interface, regardless of language combination" (p. 207). For L1 attrition in the context of long-term exposure to another language, the prediction is that attrition phenomena will initially be manifested at the syntax-pragmatics interface and, at later stages, at the syntax-semantic interface.

Assuming that the pragmatically-determined functions of the Russian general-factual imperfective, which we discussed earlier in this chapter (Section 5.1.1 above), are mediated in the C-domain, where linguistic forms are matched with pragmatic and contextual factors, the IVH predicts that, even in the absence of overt grammatical errors with aspect, acrolectal heritage speakers of Russian could diverge from Russian speakers in the control group on their knowledge and use of the general-factual imperfective. Recall that the general-factual imperfective enters into aspectual competition with the perfective aspect in the reference to total single events, leading to a situation where both aspectual forms are possible, as far as grammatical restrictions are concerned. The competition may be successfully resolved in favor of the imperfective aspect when

certain discourse-pragmatic requirements are met (e.g., statement of fact, reference to a reversed action, conditions of thematicity and backgrounding of the predicate). The observation that high proficiency heritage speakers produce significantly fewer imperfective forms than the Russian-speaking controls in compositionally telic contexts in production (as we saw in Experiment 1 in Section 4.3.1 above) may be indicative of an emerging restriction on the use of the imperfective with completed actions in the heritage grammar. This observation lends support to the hypothesis that some of the functions of the imperfective aspect may be reduced or lost in grammars of advanced speakers, who use more perfective forms than monolingual speakers with total single events. If this analysis is on the right track, then the pattern observed in production may be indicative of reorganization (i.e., reduction) of the spectrum of aspectual meanings associated with the imperfective aspect for high proficiency heritage speakers of Russian at the syntax-pragmatic interface.

As we saw in Section 5.1.1 above, grammatical availability of perfective and imperfective forms in reference to single total events in Russian creates conditions for aspectual competition, which is successfully resolved only by contextual inference. As correctly noted in Merrill (1990: 313), cases of aspectual competition (such those illustrated in (143) above) in principle allow both aspectual forms, but only in the absence of specific context: “there is nothing in the predication that makes one aspect or the other inappropriate”; however, the “free choice” of aspect disappears at the discourse level, where contextual conditions may clearly favor one choice, making the other one infelicitous relative to the pragmatic situation at hand. Thus, felicitous use of the general-factual imperfective depends crucially on the mastery of the mapping rules between

syntax, where the aspectual value is computed compositionally within the verbal complex (Verkuyl, 1993, 1999), and discourse-pragmatics. Instability or inaccessibility of the relevant mapping principles at the interface between syntax and discourse-pragmatics in an intermittent grammar predicts optionality in the use, interpretation, and acceptability judgments of contextually-driven imperfectives.

### 5.2.2 Experiment 2: Scaled Acceptability Judgments

Production results obtained in Experiment 1 (Sentence Construction), discussed earlier in Section 4.3.1, point to the reduction in the use of the imperfective aspect with total single events in heritage Russian. Recall that heritage speakers showed a statistically significant decrease in the production of imperfective forms in the compositionally telic condition, compared to Russian-speaking controls. If these results bear any indication of a deeper systematic reorganization in the heritage Russian aspectual system, sufficiently robust so as to affect these speakers' linguistic competence, then heritage speakers could exhibit differences from baseline speakers not only in production, but also in acceptability of imperfectives with total single events. In light of recent proposals about the vulnerability of C-domain properties in developing grammars, pragmatically-conditioned functions of the Russian imperfective, cumulatively known as the general-factual imperfective, appear to be the prime candidate for non-target-like behavior in the context of HLA. If the knowledge of discourse-pragmatic functions of the imperfective in acrolectal heritage grammars is reduced, speakers in this group should exhibit diminished sensitivity to discourse-pragmatic triggers of imperfectivity. This pattern could be reflected in consistently lower acceptability judgments for contextually-licensed

imperfective forms, compared to monolingual baseline speakers. A scaled acceptability judgments experiment was designed to test this hypothesis.

#### *5.2.2.1 Participants and Methodology*

The group of heritage speakers included 19 participants from the larger pool. Because all speakers also participated in the sentence construction experiment, production data was available to estimate each speaker's proficiency level in Russian. Only acrolectal speakers, i.e. those who made no or few (no more than 3) overt grammatical errors in production on structural properties (see Section 4.3.1.2 above) were included in the task. The demographic information for this group is as follows: mean current age = 21 (range: 18-29), mean age of arrival to the US = 4.49 (range: 0-10), mean length of time of residence in the US = 16.45 (range: 10.5-22), mean percent of Russian use in daily life = 22.63% (range: 10%-50%). The means of speakers' self-ratings with respect to their proficiency in Russian, evaluated on a 10-point scale, are as follows: ability to understand spoken Russian = 8.37 (range: 5-10), speak Russian = 6.74 (range: 4-10), read in Russian = 4.79 (range: 1-8), write in Russian = 3.42 (range: 1-8). The control group of native speakers consisted of 24 adults, mean age = 35 (range: 23-60), who completed the test in Russia, their permanent place of residence, and reported using only Russian and no other languages for all daily communication.

All participants completed an electronic scaled grammaticality judgment task. They were presented with 10 short descriptions of situations in Russian. Every description contained a missing verb, and two verb forms (one perfective and one imperfective) were provided below the blank space. Example (156) below, a test item on the experiment, illustrates the procedure:

(156) A. Moj drug nemnogo govorit po-russki i ochen’ ljubit
my friend a little speaks.IMP in Russian and very loves.IMP
russkuju literaturu. Nedavno on zakonchil ‘Prestuplenije
Russian.ACC literature.ACC recently he finished.PFV crime.ACC
i Nakazanije’ Dostojevskogo.
and punishment.ACC Dostoevsky.GEN
‘My friend speaks a little Russian and really loves Russian literature. He has recently finished *Crime and Punishment* by Dostoevsky.’

B. A kak on ____ etu knigu, po-anglijski ili po-russki?
And how he that.ACC book.ACC in English or in Russian
‘And how did he read that book, in English or Russian?’

a. chital (‘read.IMP’)
b. prochital (‘read.PFV’)

The participants were asked to rate each candidate verb with respect to how well, in their opinion, it would fit in place of the missing verb, using a four-point scale: “perfect,” “okay,” “awkward,” “unacceptable.” The experiment was specifically designed to target the general-factual imperfective aspect with completed actions. Thus, each target situation presented in the experiment involved a completed action, but included contextual triggers of imperfectivity – i.e., information that would license the use of the imperfective form, contextually resolving aspectual competition in favor of the imperfective form over the perfective form. For example, in (156) above, the imperfective form of the verb *read* is contextually favored over the perfective form because the verb is the thematic (backgrounded) element in the target sentence, which is a question about *how* the action was performed. This function of the general-factual imperfective is discussed in Section 5.1.1.3 above.

Other contextual triggers of imperfectivity in the experiment included the types of the general-factual imperfective discussed in 5.1.1 above. The main hypothesis of the study, which maintains that the range of discourse-pragmatic functions of the imperfective aspect is becoming reduced in the heritage grammar, yields the following predictions: heritage speakers of Russian would (i) rank the imperfective forms lower than the speakers of Russian in the control group and (ii) rank the perfective forms higher than the speakers of Russian in the control group.

Note that because we are dealing with soft, rather than hard linguistic constraints (Sorace and Keller, 2005), we do not predict that 100% of monolingual Russian speakers will accept 100% of the imperfective forms in each context, nor do we expect that native speakers will rate the forms uniformly in all contexts. Recall that previous studies of C-domain phenomena in monolingual grammars reported below-ceiling performance of native speakers on tasks involving mappings of linguistic and pragmatic information at external interfaces (Sorace and Serratice, 2009 and sources cited therein). Rather, data from the monolingual group will help establish the acceptability threshold typical of competent native grammars, against which the responses of heritage speakers could then be evaluated. In research which involves soft linguistic constraints, this type of an approach promises more accuracy than reference to absolute norms represented in dictionaries or in meta-judgments of native speaker consultants.

#### *5.2.2.2 Results and Discussion*

Both predictions are fully borne out. Before we examine the mean ratings from both groups in any detail, let us first obtain the 'big picture' of the results by considering the overall patterns of responses in the two populations. In order to achieve this, our

initial run at the presentation of the data will be simplified into a binary system. The binary system is obtained by converting the ratings from a four-point scale into a binary opposition *ACCEPTED – REJECTED*. Here, items judged as either "perfect" or "okay" will be subsumed under a single label *ACCEPTED*, and items judged as either "awkward" or "unacceptable" will be grouped together under a single label *REJECTED*. The overall percentages of forms that were *ACCEPTED* in each group are presented in Figure 3 below.

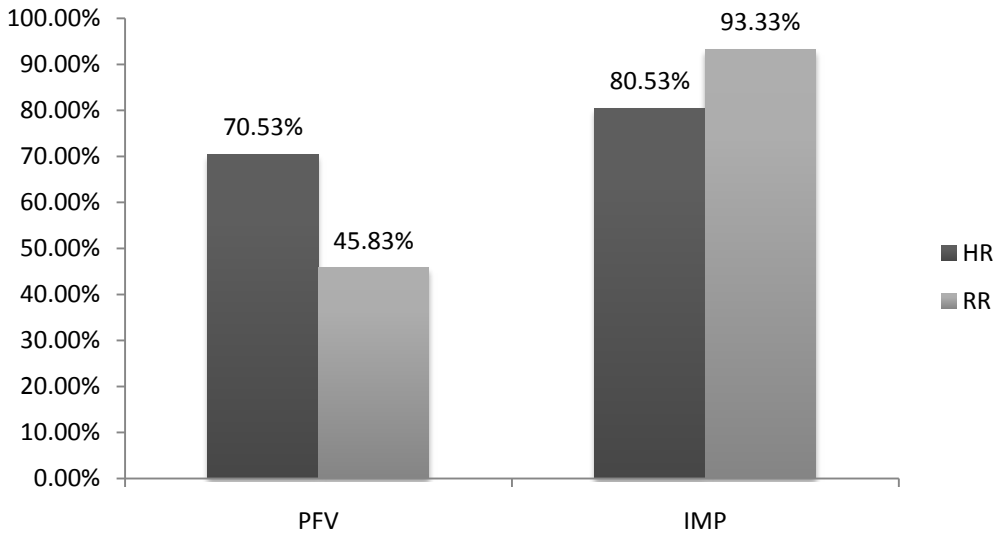



Figure 3: Percentages of *ACCEPTED* forms on the scaled acceptability judgment task for heritage speakers (HR) and Russian-speaking controls (RR).

Imperfective verbs received the highest rankings in the control group of Russian speakers: 93.33% of the imperfective forms were judged as either "perfect" or "okay" relative to the provided contexts in this group. Heritage speakers accepted fewer imperfective forms in the same contexts: only 80.53% of imperfectives were judged as "perfect" or "okay." In other words, while the speakers of Russian in the control group

rejected only 6.67% of imperfective forms, heritage speakers found 19.47% or nearly one-fifth of imperfective forms in the same contexts unacceptable. A statistical comparison in the form of a one-tailed t-test performed on percentages of *ACCEPTED* forms in the two groups, paired by items on the experiment, revealed that differences between the two groups are very statistically significant ($p < 0.004$).

Next, we will consider the overall acceptance rates of perfective verbs relative to the contexts provided on the test. Native speakers of Russian rejected most of perfective verbs: less than half of all perfective forms, 45.83%, were rated as "perfect" or "okay" in the control group. However, heritage speakers exhibited considerably more favorable judgments for perfective forms in the same condition: 70.53% of the perfectives on the test ranked as either "okay" or "perfect" despite the presence of imperfective contextual triggers. Once again, the difference between the two groups was proven to be statistically significant on a one-tailed paired t-test ($p < 0.001$). Overall, these results suggest that some of the functions carried out by the imperfective aspect in baseline Russian are instead associated with perfective aspect in heritage Russian, and that sensitivity to contextual factors that trigger imperfective aspectual marking for speakers in the monolingual group is significantly reduced in the heritage group.

Next, detailed ratings for all forms will be considered. Figure 4 below represents mean ratings for two groups of speakers on a four-point scale, from 0 points to 3 points (where 0 corresponds to "unacceptable," 1 corresponds to "awkward," 2 corresponds to "okay," and 3 corresponds to "perfect"). Thus, the highest possible rating for each verb is 3 points, and the lowest possible rating is 0 points.

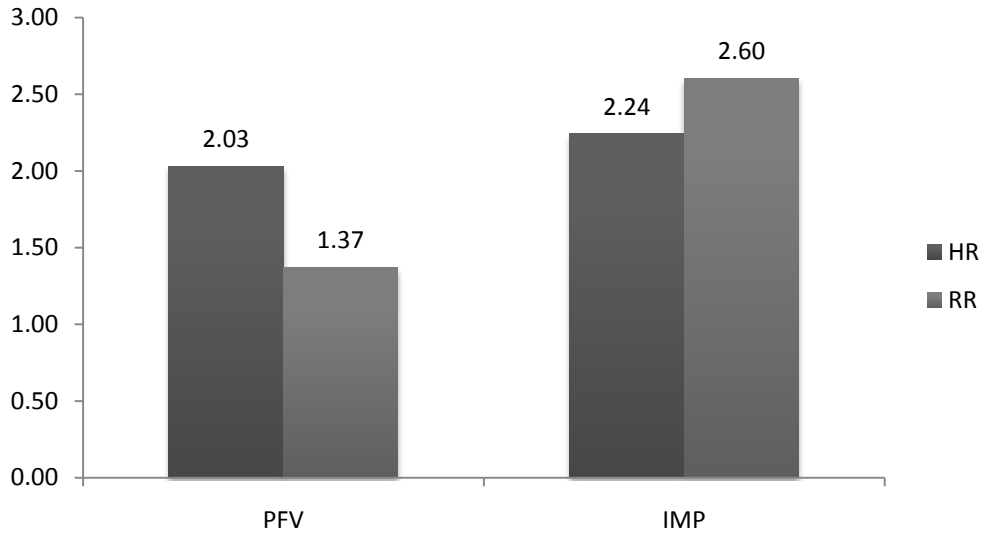



Figure 4: Mean ratings for PFV and IMP verbs in the data from heritage speakers (HR) and Russian speakers in the control group (RR).

Russian speakers in the control group ranked imperfective forms significantly higher (mean = 2.60) than heritage speakers (mean = 2.24), according to the results of a paired one-tailed t-test that revealed the p-value < 0.001. A reverse pattern was observed with the ratings for perfective forms, which were ranked significantly lower by speakers in the control group (mean = 1.37) than by speakers in the heritage group (mean = 2.03), with the significance value of $p < 0.0001$.

Finally, we will examine the mean values of perfective and imperfective ratings for each item on the experiment in order to determine whether speakers in the two groups exhibit clear preferences for one aspectual form over the other, relative to the provided context. For the monolingual group, a strong preference for the imperfective form is expected on each item: due to the presence of discourse-pragmatic imperfectivizing triggers in the target contexts, aspectual competition should be unambiguously resolved

in favor of the imperfective aspect. A hypothesis that posits that heritage speakers are no longer equally sensitive to imperfectivizing triggers in the C-domain predicts no significant preference for the imperfective aspectual forms over perfective forms in the heritage group.

Once again, both predictions are sustained. A one-tailed paired t-test performed with mean perfective and imperfective ratings for each test item reveals a very statistically significant preference for imperfective forms over perfective forms in the monolingual group, at p-value $< 0.001$. In contrast, the same statistical test suggests that heritage speakers tend to treat perfective and imperfective forms uniformly despite the presence of contextual imperfectivizing triggers: the difference between mean perfective ratings and mean imperfective ratings for each item is overall not statistically significant for the two aspectual conditions, perfective and imperfective ($p > 0.3$). These findings suggest that heritage speakers exhibit a diminished sensitivity to discourse-pragmatic triggers of imperfectivity, and that the pragmatically-conditioned functions of the general-factual imperfective, maintained as distinct in the baseline aspectual system, are carried out by the perfective aspect in acrolectal heritage grammars. The results are illustrated in Figure 5 below for the group of heritage speakers and Russian speakers in the control group.

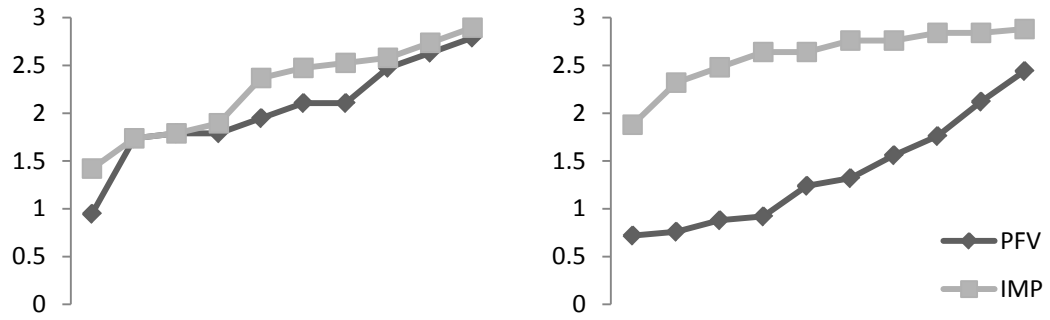



Figure 5: Mean ratings for PFV and IMP verbs in the data from heritage speakers (left) and Russian speakers in the control group (right).

Recall that, as discussed in 5.2.1 above, aspectual competition in Russian, manifested in grammatical availability of both aspectual forms in reference to total single events, is resolved in favor of the imperfective aspect in the presence of contextual triggers for the general-factual imperfective. The results illustrated in Figure 5 above suggest that acrolectal heritage speakers are not able to rely on the relevant discourse-pragmatic triggers in order to resolve the aspectual competition, possibly due to instability or lack of availability of the relevant mapping principles at the interface between syntax and discourse-pragmatics.

### 5.2.3 Experiment 3: Comprehension

In order to supplement the findings of the acceptability judgments experiment, aimed at measuring the knowledge of pragmatically-licensed uses of the imperfective by acrolectal heritage speakers reflected in acceptability ratings, a comprehension experiment was designed to determine whether these speakers exhibit target-like interpretations of the pragmatic implicatures of the general-factual imperfective.

#### *5.2.3.1 Participants and Methodology*

All participants of the scaled acceptability judgment experiment took part in the comprehension experiment. Detailed information about the participants is provided in Section 5.2.2 above.

The test was set up as a forced-choice matching task targeting the reversed action implicature of the general-factual imperfective. The participants were presented with sentences containing an imperfective verb with a reversed action implicature. Following each target sentence, two interpretations of the sentence were given. One interpretation identified the target action as implying an annulled result, such that the result of the action denoted by the verb was interpreted as subsequently cancelled. The other interpretation identified the action as one with a lasting result. Examples in (157) and (158) below represent two of the eight target items included in the task:

(157) Kto-to nedavno otkryval okno.
someone recently opened.IMP window
'Someone opened the window recently'

a. Okno seichas otkryto.
window now open
'The window is now open'

b. Okno seichas zakryto.
window now closed
'The window is now closed'

(158) Maxim bral etu knigu v biblioteke.
Maxim took.IMP this book in library
'Maxim got this book from the library'

a. Kniga seichas u Maxima.
book now at Maxim's
'The book is now in Maxim's possession'

b. Kniga seichas v biblioteke.
book now in library
'The book is now at the library'

The participants were instructed to match each sentence with the description which explains its meaning best. Thus, if speakers understood the reversed action implicature in the target sentence, they would select the interpretation that described the result of that action as canceled. In the above examples, this would be the interpretation in (b) sentences in (157) and (158). However, in the absence of the annulled result implicature, the participants would choose the alternative interpretation instead. The experiment also included several fillers, where the target sentence contained a perfective verb and two interpretations. The fillers were used merely as distractor items and were not included in the analysis. The order of presentation of the two interpretations for target items and for fillers was randomized.

The following predictions were formulated: if the general-factual meanings of the imperfective aspect are undergoing overall reduction and loss in heritage Russian, the reversed action implicatures are expected to be less available to heritage speakers,

compared to monolingual speakers of Russian. We thus expect a higher proportion of annulled result interpretations in the baseline group than in the heritage group.

#### *5.2.3.2 Results and Discussion*

As predicted, the two groups differed on their interpretations of the reversed action imperfective. Russian speakers in the control group exhibited greater sensitivity to the annulled result implicatures: overall, 87.50% of target predicates were assigned reversed action interpretation in the monolingual group, compared to 75.66% in the heritage group. The difference was found to be statistically significant on a matched-sample one-tailed t-test performed on mean percentages of reversed action interpretations for each item in the two groups, at a p-value $< 0.01$. The reversed action implicatures were consistently less available to speakers in the heritage group, thus corroborating the findings of the previous experiment and pointing to the overall reduction of the pragmatically-mediated functions of the general-factual imperfective aspect in Russian.

### 5.2.4 Restructuring of the Opposition: From Privative to Equipollent

The general-factual imperfective is taken to be the key argument for the privative status of the Russian aspectual opposition. Results of two experiments reported in this chapter, coupled with the results of the production task in Chapter 4, point to a statistically significant reduction in the range of discourse-pragmatic functions of the imperfective aspect in heritage Russian. A gradual loss of the general-factual imperfective ultimately leads to reinterpretation of the unmarked status of the imperfective aspect and a shift towards the equipollent type of aspectual opposition, where contextual cues and pragmatic inferences are not relevant for aspectual interpretations. The perfective aspect, which canonically refers to single total events in

baseline Russian but may be replaced with the imperfective aspect under certain discourse-pragmatic conditions, begins to emerge as the invariant form with single total events in heritage Russian. Two canonical or 'core' meanings of the imperfective, which do not involve aspectual competition, are reference to a concrete activity (process) and repetition (Leinonen, 1982: 88) or, in Rassudova's (1984) terms, the concrete-processual and general-iterative meanings. These meanings are modulated by semantic operators (de Swart, 1998), such as the progressive and habitual operators in the grammatical component of sentential aspect (IP-aspect).

In contrast, the general-factual meaning is typically not included among the canonical interpretations of the imperfective (Leinonen, 1982) and is instead analyzed as peripheral: the general-factual meanings of the imperfective are said to be determined by contextual cues and pragmatic inferences, which create conditions for aspectual competition, successfully resolved in context. These meanings are regulated by the discourse-pragmatic component of sentential aspect, which links linguistic material in the sentence with external pragmatic knowledge. Contextual information is mediated in the upper sentential level known as the C-domain, and I will refer to aspectual information at this level as CP-aspect.

In the following section of this chapter, I will offer a unified account of the areas of divergence and convergence between the two aspectual systems. I will propose that the aspectual systems of baseline Russian and heritage Russian converge in the I-domain, but diverge in the C-domain. Because the unmarked status of the Russian imperfective depends crucially on its ability to compete with the perfective in the C-domain, loss of contextually-determined peripheral meanings of the imperfective in acrolectal varieties of

heritage Russian is taken to be an indication of a gradual restructuring of the baseline privative aspectual opposition into an opposition of the equipollent type.

## 5.3 Toward a Multi-level Approach to Viewpoint Aspect

In this chapter, I put forward a multi-level model of aspect in Russian, which is a development, in essence or only in spirit, of some earlier analyses that approach viewpoint aspect in Russian as a multi-faceted phenomenon that can be represented at distinct levels of linguistic structure. The present proposal is different from other multi-level treatments of aspect, such as the two-level distinction between situation and viewpoint aspect advocated in Smith (1991), in that the present model represents viewpoint (outer) aspect itself as consisting of three levels (VP, IP, and CP), with some aspectual information represented at each level of sentential structure, consistent with the minimalist assumptions about sentence structure outlined in (155) above.

### 5.3.1 Leinonen (1982)

Among the first scholars who employed the idea of a two-level approach to viewpoint aspect in Russian is Leinonen (1982), who treats the Slavic aspectual opposition in terms of temporal definiteness-indefiniteness. The perfective aspect expresses definiteness, which means that the event is assigned to a uniquely definable point or interval in time. The imperfective aspect expresses indefiniteness, which signals that the state of affairs is assigned to at least one point in time. Leinonen (1982) argues that the Russian aspects should be described with reference to two levels, or two configurations of aspectual notions. Thus, the general notion of viewpoint aspect is split

into inner aspect and outer aspect.[36] Inner aspect defines features that concern the aspectual core meaning; this meaning is the opposition of Totality (associated with an indivisible time line) and Non-totality (associated with a divisible time line), taken to be the aspectual opposition proper. Thus, the first level of aspectual meaning pertains to the temporal contour of the action, which establishes the location of the situation in time. The second level, the outer aspect, is the level of temporal reference in the discourse. It pertains to relating the situation with other situations in time; here, the notions of sequentiality, simultaneity, topic-continuity, narrative backgrounding and foregrounding are expressed. The two layers of viewpoint aspect perform distinct functions: the viewing of an action as a total event or not a total event is the realm of the inner viewpoint aspect, while presenting the event as taking place simultaneously with some other event, or, on the contrary, as sequential in time with another event in the discourse, is a function performed by the outer viewpoint aspect.

### 5.3.2 Schoorlemmer (1995)

Schoorlemmer's (1995) analysis of Russian aspect provides a model that derives perfectivity and imperfectivity in two ways. One source of (im)perfectivity is compositional (a)telicity: compositionally telic predicates are marked as perfective and compositionally atelic predicates are marked as imperfective in Russian. The telicity value of the predicate is reflected in the aspectual projection AspP (aspect phrase), which has a feature [+pf] if the predicate is telic or [-pf] if the predicate is atelic. Verbs with a syntactically derived telicity value are considered to be aspectually paired, in a sense that

[36] Note that this distinction is not to be equated with the more commonly employed distinction between Inner Aspect and Outer Aspect in current syntactic literature a la Travis (1991), which is essentially a distinction between lexical aspect (telicity) and viewpoint aspect.

they have both perfective and imperfective forms (e.g., *pisat'*.IMP – *napisat'*.PFV 'write', *delat'*.IMP 'do' – *sdelat'*.PFV 'make'). At this level of aspectual derivation, Schoorlemmer (1995) employs Verkuyl's (1993) theory of compositional aspectuality, which operates with [±ADD TO] and [±SQA] features and in which the direct object plays a key role (Section 4.1 above).

In addition to the compositional model, each aspect has one additional source. For perfectivity, this additional source is argued to be lexical: Schoorlemmer (1995) posits that a certain class of Russian verbs, the so-called Aktionsart verbs, are inherently lexically marked as [+pf], or perfective. The inherent perfectivity feature "switches off" the compositional system to ensure that these verbs are not sensitive to compositional aspectuality (Schoorlemmer, 1995: 98). This group includes temporal Aktionsart verbs, i.e. perfectives formed with prefixes *po-* (short while) and *pro-* (long while) and phase Aktionsart verbs, which include verbs that focus on a special temporal phase of an eventuality, such as its beginning, *za-*, and end, *ot-*, as well as verbs that denote one instance of a repetitive action and are marked with a stem suffix *-nu-*. The principle of compositional telicity does not apply to these verbs.

Imperfectivity, on the other hand, is also said to be derived via two sources. Besides compositional atelicity, which is the first source, use of imperfective forms may be due to imperfectivizing triggers. Three imperfectivizing triggers are discussed: habituality, telic presupposition, and presence of negated modals. Habituality is related to presence of adverbs like *always* or *sometimes*: with these triggers, the resulting form of the predicate is imperfective irrespective of the telicity value of the predicate. In addition to sentences with overt habitual adverbs, habitual interpretation may be present with a

silent quantifier HAB. The presence of a null habitual operator HAB accounts for habitual interpretations of sentences such as those in examples in (159) below (from Schoorlemmer, 1995: 111).

(159) a. Mary laughs when she is embarrassed.

b. John goes to school by bus.

c. Peter takes a nap after lunch.

Telic presupposition, in Schoorlemmer's (1995) analysis, is another trigger of imperfectivity with telic verbs: "an imperfective verb is used in a clause when the *presupposition* is that the event is telic" (p. 112). This situation may obtain in contexts where there exists understanding between interlocutors that a certain event has already taken place, and the reference to the event is for the purposes of obtaining more information about the specific details of the event. This use of the imperfective corresponds to the thematicity and backgrounding functions discussed in 5.1.1.3 above. In Schoorlemmer's (1995) own words, "the context or knowledge of the world tells us that the event was indeed telic, and as a result the informational focus of the sentence is on something other than the question whether or not the limit was reached" (p. 113).

The third trigger of imperfectivity with compositionally atelic predicates is the presence of negated modals which take the predicate in question as their complement, such as *ne nado* 'no need to' in (160) below (from Schoorlemmer, 1995: 114).

(160) Ne nado emu vse ustraivat' po novomu.

no need him all organize.IMP anew

'He should not organize everything differently'

Schoorlemmer's (1995) model of Russian aspect is schematized in (161) below. In a nutshell, it can be summarized as follows: all compositionally atelic predicates are imperfective; compositionally telic predicates are either perfective (in the absence of imperfective triggers) or imperfective (in the presence of said triggers). Imperfective triggers include habituality, telic presupposition, and negated modals. Some verbs are always perfective, because they carry an inherent aspectual feature [+pf].

(161)

| | | |
|---|---|---|
| + [pf] | => | perfective |
| +imperfective trigger | => | imperfective |
| both | => | * |
| neither | => | compositional aspectuality: |
| | | +telic => perfective |
| | | -telic => imperfective |
| imperfective triggers: | • | habituality |
| | • | telic presupposition |
| | • | negated modals |

### 5.3.3 The Present Approach

The idea that perfectivity is in some way associated with the notion of reaching the inherent boundary or limit (in other words, with telicity) has deep roots in the earliest studies on Slavic aspect. Nineteenth-century scholars have explored the idea that "perfectivity goes hand in hand with some notion of completion, a bound temporal interval or some kind of delimitedness in time" (Borik, 2006: 23 and reference therein). Building on intuitions expressed in some of these works, Leinonen (1982) associates one level of viewpoint aspect in Russian with the notion of totality. Filip's (1999) theory of

Slavic aspect, which posits that perfective and imperfective operators operate on top of eventuality descriptions, defines a perfective operator as denoting events represented as "single indivisible wholes," "in their totality," while the imperfective operator is underspecified with respect to totality and can refer to both on-going or completed eventualities, with the interpretation determined by contextual conditions (p. 184-187). Schoorlemmer's (1995) analysis also draws a direct link between compositional telicity of the predicate and its aspectual value (this account also allows for the two notions to remain separate by positing the existence of alternative sources of imperfectivity and perfectivity, besides telicity – imperfectivizing triggers, on the one hand, and inherently perfective verbs, on the other).

The model advocated here is a logical development of previous approaches. In order to capture intricate relationships between (a)telicity and (im)perfectivity in Russian, I maintain the global two-level viewpoint aspect distinction (Leinonen, 1982; Schoorlemmer, 1995; Verkuyl, 1993), with one of the two levels linked to telicity and the other level orthogonal to it. On the lower level, which I label the default VP aspect, the compositional aspectuality of the VP corresponds directly to the value of viewpoint aspect: the perfective marks a telic VP and the imperfective marks an atelic VP. On the higher level, which I tentatively refer to as the sentential aspect level, the contribution of the default VP aspect can be overridden by sentential operators and discourse-pragmatic triggers, both of which are able to change the default aspectual value of the predicate. Thus, the derived aspectual value of the sentence may differ from the default telicity-based value (in the presence of sentential imperfectivizers) or it may remain identical to it, with no intervening triggers.

Imperfectivizing sentential operators (cf. Schoorlemmer's (1995) imperfective triggers) convert telic VPs into IMP predicates. These triggers can be of two types: grammatical and discourse-pragmatic. Examples of grammatical sentential triggers[37] of imperfectivity include progressive (PROG) and habitual operators (HAB), which may be overt (e.g., adverbs of duration or frequency) or covert. Discourse-pragmatic triggers of imperfectivity include conventional, contextual, and discourse-pragmatic factors that license imperfective marking in Russian. What Schoorlemmer (1995) refers to as the "telic presupposition" trigger of imperfectivity is just one instance of triggers in this category; other functions of the general-factual imperfective also serve as imperfectivizing triggers (e.g., statement of fact, reversed action, and backgrounding[38]discussed in Section 5.1.1 above). These functions of the imperfective belong to the same group as the so-called "conventional uses" of the imperfective discussed in Smith (1991). In the absence of pragmatic or grammatical IMP triggers, the default VP aspect projects directly onto the sentential level.

To reflect the grammatical/discourse-pragmatic distinction among imperfectivizers of the two types, and assuming the three-layer sentence structure in (155) above, sentential aspect above the VP can further be represented as consisting of two layers: IP-aspect (sentential aspect proper) and CP-aspect (aspect at the interface with discourse-pragmatics). IP-aspect is taken to be the domain of grammatical aspectual

[37] Additional grammatical triggers of imperfectivity, such as negation and complementation of certain verbs, are not analyzed here due to insufficient number of relevant examples in the data.

[38] Relatively few systematic studies of discourse-pragmatic triggers of imperfectivity currently exist. Some scholars, notably Forsyth (1970) and Rassudova (1984) provide useful descriptions of various non-conventional and stylistic uses of the imperfective, including many idiosyncratic and arguably language-specific uses (e.g. expression of politeness in requests (cf. also Fielder, 1990) or conveying reported speech), however, no unified and systematic theoretical treatment of these functions has so far been proposed.

operators, such as habitual (HAB) and progressive (PROG). Here, two out of three functions of the Russian imperfective distinguished in Rassudova (1984) and most subsequent work, namely the concrete-processual (i.e., progressive) and general-iterative (i.e., habitual), are determined. The higher level, CP-aspect, is the level at which discourse-pragmatic triggers of imperfectivity operate.[39] Here, the general-factual imperfective is mediated. The general label 'sentential aspect' thus subsumes both levels (IP and CP) to capture the intuition that the linguistic marking in both cases is achieved sentence-internally. As pointed out by Chvany in her analysis of aspect as a discourse-level phenomenon (1990: 217), "although grounding is a textual phenomenon, almost all the grammatical specialization can be identified at the sentence level."

The present approach differs in several respects from those proposed in previous work. Unlike de Swart's (1998) aspectual operators, which apply to eventuality types and change them into other eventuality types, aspectual operators in the present model do not change the eventuality type of the linguistic material in the input, only changing its aspectual value (i.e., they provide a different perspective of the eventuality type). Some potential problems with de Swart's (1998) model, such as absence of a principled distinction between derived and basic (predicational) eventuality types, are discussed in Borik (2006), who argues that eventualities at the level of aspectual operators do not behave exactly the same way as eventualities whose type is established at the predicational level in English. For Russian, Chaput (1990: 288) expressed a similar view

[39] It is possible that the distinction between the IP and CP domains is also relevant in the domain of perfectivizers. The few instances of sentential perfectivizers available in the present corpus do not provide sufficient linguistic material for further discussion.

in noting that propositional (i.e., viewpoint) and lexical statives operate on different levels.

While maintaining the idea that the perfectivity value of [α-telic] verbs is the projection of syntactically determined telicity value of the predicate, derived on the basis of the [+SQA] feature of the argument (Verkuyl, 1999), I depart from Schoorlemmer's (1995) assumption that perfective verbs of inception and other Aktionsart perfectives are inherently specified for perfectivity in the lexicon. Instead, I analyze these verbs as atelic predicates combined with aspectualizers, which apply at the higher level of aspectual computation than other perfective prefixes and are, unlike other prefixes in Russian, independent of telicity.

Consider the following examples:

(162)

| IMP | | PFV | |
|---|---|---|---|
| *pet'* | sing | *zapet'* | start singing |
| *plakat'* | cry | *zaplakat'* | start crying |
| *kurit'* | smoke | *zakurit'* | start smoking |
| *begat'* | run around | *zabegat'* | start running around |

One potential disadvantage of Schoorlemmer's (1995) analysis is that it must posit two separate lexical entries for pairs in (162) above: the imperfective forms, which exist without the [+pf] specification, and [+pf]-specified perfective forms. Note, however, that there is a high degree of systematicity in the morphological marking of these verbs, as well as in their semantic interpretations.

Prefixes *za-*, *po-*, and *pro-* have received considerable attention in literature on Russian aspect. Flier (1985) refers to the derivation with *po-* and *pro-* in Russian as prefixal delimitation. Prefixed delimitatives have been shown to be problematic for many theories of aspect that treat viewpoint aspect as a grammatical instantiation of telicity defined in terms of Vendlerian accomplishments and achievements. Flier (1985: 41) points out that delimited situations are anomalous because they cannot be viewed progressively and do not express abrupt changes of state; thus, they technically do not qualify as either accomplishments (which have a processual component, e.g. *build a house*) or achievements (which imply instantaneous change, e.g., *reach the summit*), making it necessary to distinguish them as a separate type of predicates. Chaput (1990: 288-89) notes that while Russian states and activities (i.e., atelic predicates) are most naturally expressed by imperfective verbs, they can, in some situations, be expressed perfectively, in which case they denote "either a temporally delimited activity…, or the inception of a state." Borik (2006) implements a number of linguistic tests to argue that verbs derived with *po-* and *pro-* prefixation, as well as 'beginning' verbs with an inceptive prefix *za-*, fail to become telic upon application of the prefixes, taking such atypical behavior of these prefixes as the crucial argument for the claim that aspectual prefixes in Russian are grammatical markers of perfectivity, rather than telicizing morphemes. Since perfectivity does not always lead to telic interpretations, no one-to-one correspondence between the two should be posited. Hence, the definition of perfectivity cannot be given in terms of telicity, as they are separate aspectual phenomena (Borik, 2006: 75-86).

However, other analyses, such as Verkuyl (1999), treat these 'quirky' perfective prefixes in Russian as aspectualizers which fall outside the range of the compositional telicity principle and thus do not posit problems for telicity-based approaches to Russian aspect. In Verkuyl's (1999: 12) analysis, aspectualizers are taken as "slicing the Path of the external argument restricting it to the onset, coda, or nucleus." In other words, the telicity of the VP is irrelevant for an aspectualizer, and the resulting interpretation is bounded irrespective of whether the predicate is telic or atelic. For English, aspectualizers include words like *start* or *begin*, which can apply to telic and atelic VPs. The following examples are from Verkuyl (1999: 112):

(163) a. Judith began to eat sandwiches.

b. Judith began to eat three sandwiches.

In both instances, the action is presented as restricted to its onset due to the presence of the aspectualizer *began*, expressed in English analytically. Note also that the initial telicity of the VP does not seem to constrain the use of aspectualizers, as the boundary is imposed from the outside; thus, both telic and atelic predicates are able to occur with aspectualizers.

In Russian, both analytic and synthetic means of expression are available for aspectualizers. For example, in addition to the word *nachinat'* 'begin,' the meaning of inception can be expressed with the inceptive prefix *-za* which signals the start of an action. Thus, the pairs of sentences given in (164) and (165) are synonymous.

| | | | | | |
|---|---|---|---|---|---|
| (164) | a. | Marina | **nachala** | **pet'** | pesnju. |
| | | Marina.NOM | began.PFV | sing.IMP.INF | song.SG.ACC |

‘Marina began to sing a song’

b. Marina **zapela** pesnju.
Marina.NOM *za*-sing.PFV song.SG.ACC
‘Marina began to sing a song’

(165) a. Marina **nachala** **pet’** pesni.
Marina began.PFV sing.IMP.INF songs.PL.ACC
‘Marina began to sing songs’

b. Marina **zapela** pesni.
Marina *za*-sing.PFV songs.PL.ACC
‘Marina began to sing songs’

Other perfective prefixes that act as aspectualizers in Russian include the delimitative perfective prefix *po-*, which “can be seen as slicing a bounded part” of the event denoted by the VP, placing an emphasis on the relevant portion of that event; in doing so, it “expresses a restricted temporal unit such as ‘for a while’” (Verkuyl, 1999: 113). Delimitative prefixes such as *po-* and *pro-* in Russian are described in Flier (1985) in a similar way, i.e. as referring to “perfectivized situations confined to subjectively short and long periods of time, respectively” (p. 41) and denoting temporal delimitation. Dickey’s (2000: 17) treatment of delimitatives in Russian, represented by verbs with *po-* (such as *pospat’*.PFV ‘sleep for a while’), is that they are atelic activity verbs, not telic accomplishments, and that it is impossible to say that they have internal limits despite the presence of the prefix. The following example, from Maslov (1984), is cited in Dickey (2000: 17):

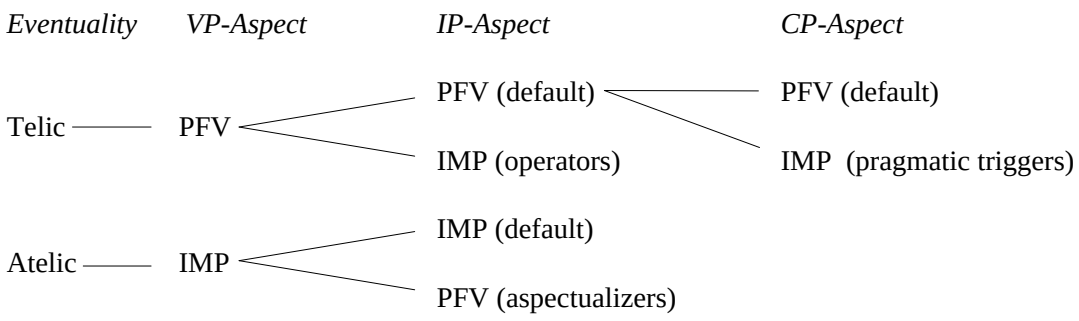
(166) Popaxali pole, no ne vspaxali ego.
plowed.PFV field.ACC but NEG plowed.PFV it.ACC
'They plowed [some on] the field, but didn't plow it up [finish plowing it].

The perfective form *popaxali* with the delimitative prefix indicates that the endpoint of the event of plowing the field was not reached, despite the perfectivity of the verb, while the second perfective form *vspaxali* unambiguously points to the completion of the plowing event. Comrie's (1976) emphasis on viewing the situation as complete or incomplete (rather than on whether the situation is actually completed) in his definition of aspect predicts correctly that even situations that are not completed (i.e., the *telos* is not reached) can be used in perfective aspect and viewed as complete, at least with respect to the part that is "sliced out" (Verkuyl, 1999) by the delimitative. Thus, while atelic predicates have no inherent limit, they can be perfectivized by an addition of "a totalizing temporal boundary, which is not inherent, but external" (Dickey, 2000: 42).

To summarize, there is a class of perfective verbs in Russian that are formed with perfective prefixes, known as aspectualizers, which add an external temporal boundary to the event. Aspectualizers form a special class of perfective prefixes in Russian: while the majority of perfective prefixes are markers of telicity, whose main function is to bring the *telos* in the description of the eventuality into focus, the role of aspectualizers is to introduce an external boundary, not inherently present in the description of the eventuality. Examples previously analyzed as lexical perfectives or Aktionsart verbs (Schoorlemmer, 1995) appear to be better analyzed as verbs temporally modified with aspectualizers, which operate at the upper aspectual level (the IP-level) and are therefore not tied to telicity at the VP-level.

Thus, we have arrived at the following system of aspect in Russian: compositional telicity of the predicate interacts with lower level of aspectual structure, the default VP aspect level. This default aspectual value may or may not project onto the sentential level. The default VP aspect and sentential aspect are independent levels in aspectual structure. Sentential operators do not affect telicity of the VP; instead, their contribution is to change the default aspectual value of the predicate. As their input, aspectual operators take the default VP-level aspectual value and produce a different aspectual value in their output (cf. de Swart's (1998) type-shifting operation). In the presence of imperfectivizing triggers, the target eventuality remains telic; with perfectivizing aspectualizers, the target eventuality remains atelic. Sentential aspect consists of two layers: the IP-layer, where grammatical triggers of imperfectivity operate, and CP-layer, where discourse-pragmatic factors contribute to the derived aspectual value of the sentence. The computation of aspectual value at the C-domain, the highest sentential level, requires the integration of discourse-pragmatic information with sentential linguistic material. This system is summarized in (167) below:

(167) The Model of Aspect in Baseline Russian



The predictions of the model in (167) are fully borne out empirically in the data from adult monolingual speakers of Russian. The account predicts that, in Russian, compositionally telic predicates should occur either in the perfective form (the default projection) or in the imperfective (in the presence of semantic imperfectivizing operators in the I-domain or discourse-pragmatic triggers of imperfectivity in the C-domain). Data from the control group of monolingual Russian speakers support these predictions fully: in the sentence construction task, compositionally telic predicates surfaced in both aspectual forms: as perfective 66.02% and as imperfective 33.98%. On the other hand, the model in (167) predicts that compositionally atelic predicates should surface predominantly in the imperfective form, which is the default projection of compositional atelicity, with the exception of sentences affected by a small class of perfectivizing aspectualizers, which combine with atelic eventualities without changing their telicity value. Thus, we can expect a small percentage of perfective forms in the atelic condition. This prediction is also borne out in the sentence construction data from the control group: 96.45% of target predicates are imperfective in the atelic condition and 3.55% are perfective. Overall, the distribution of aspectual forms in production data from the monolingual group of Russian speakers is fully consistent with the model in (167).

Note that Schoorlemmer's (1995) model of Russian aspect makes the right predictions with respect to the distribution of telic predicates, but wrong predictions about the distribution of atelic predicates. Theoretically, compositionally telic predicates are expected to surface as perfective, in the absence of intervening imperfectivizing triggers, or imperfective, in the presence of said triggers. This is exactly what we observe empirically. However, no perfective forms are expected with the atelic predicates derived

compositionally via the Verkuylian scheme, because the only two sources of perfectivity in the model are compositional telicity and an inherent [+pf] specification. Empirically, a small proportion of perfective forms is attested with compositionally atelic predicates in all groups, including the monolingual control group. This pattern is predicted by the current approach, which allows aspectualizers to attach to compositionally atelic predicates and perfectivize them through temporal delimitation.

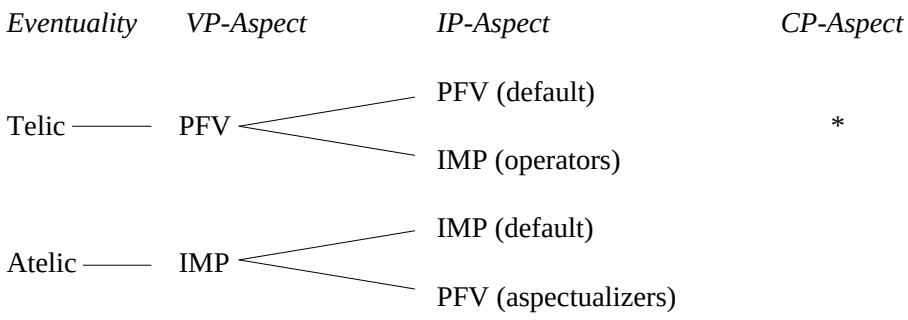
Statistically significant differences observed between speakers in the heritage group and Russian-speaking controls in production and comprehension of aspectual forms make it possible to further modify the model in (167) in order to capture the restructuring of the aspectual system instantiated in advanced heritage grammars. On the basis of data from the production experiment in Section 4.3.1, it appears that heritage Russian exhibits a more straightforward association between VP-telicity and aspectual marking in both telicity conditions: 93.26% of atelic predicates carry the imperfective aspectual value (here, the pattern is the same as in the monolingual group) and 81.04% of compositionally telic predicates are perfective. The latter condition is where differences between the two groups are observed: heritage speakers use significantly fewer imperfectives with telic eventualities (Experiment 1), provide lower acceptability judgments for imperfective forms with telic predicates (Experiment 2), and are significantly less accurate on the interpretations of imperfective forms than monolingual controls (Experiment 3). In accounting for these patterns, I suggest that acrolectal varieties of heritage Russian are no longer equally sensitive to aspectual contrasts calculated at the highest level of sentential structure, the C-domain.

In principle, model in (167) above allows for two types of sentential triggers of imperfectivity: grammatical triggers at the IP-aspect level and pragmatic triggers at the highest level of sentential structure, the CP-level. Both types of triggers may be responsible for the imperfective marking with compositionally telic predicates. Recall that heritage speakers diverged from the Russian-speaking controls on the use of the imperfective aspect in the compositionally telic condition in the sentence construction task (Experiment 1): use of the imperfective aspect with total single events was significantly diminished in the heritage group. Careful analysis of sentential contexts in which imperfective forms were produced by heritage speakers with compositionally telic predicates suggests that while heritage grammars appear to retain sensitivity to sentential aspectual operators, such as HAB, PROG and additional grammatical triggers of imperfectivity such as negation and modals, there is no indication that these grammars are equally sensitive to discourse-pragmatic triggers of imperfectivity mediated in the C-domain, such as the general-factual imperfective. The imperfective forms attested with compositionally telic predicates, totaling only 18.96% of all aspectual forms in this condition, either had progressive or habitual readings (11.85%) or were due to grammatical imperfectivity triggers within the sentence (7.11%), such as negation and certain verbs that trigger the imperfective marking on their complements in Russian (see, e.g., Schoorlemmer, 1995). Crucially, there were no imperfective forms with unambiguously general-factual interpretations in the sentence construction data in the heritage group. For comparison, sentences produced by the speakers of Russian in the control group, where 33.98% of predicates in the telic condition were imperfective, exhibited a wider range of grammatical and pragmatic imperfectivizing triggers at work:

21.84% were due to progressive and habitual operators, 6.80% were contextually-licensed general-factual imperfective forms, and 5.34% involved various grammatical sentential triggers.

In addition to the absence of the general-factual imperfective forms in production, comprehension experiments point to a significantly reduced knowledge of the general-factual imperfective in the heritage group, reflected in lower acceptability ratings for the general-factual imperfective and less accurate (compared to the monolingual standard) interpretations for reversed-action imperfectives. Because the general-factual imperfective is regulated at the external interface with pragmatics, the C-domain, I suggest that acrolectal heritage grammars are undergoing gradual reduction and ultimate loss of aspectual contrasts at the CP-aspect level. Model in (168) below schematically represents the aspectual system instantiated in acrolectal varieties of heritage Russian.

(168) The Model of Aspect in Acrolectal Varieties of Heritage Russian




To summarize, the aspectual systems in two varieties of Russian under consideration, baseline Russian and heritage Russian, appear to converge at the level of the verb phrase, where aspectual marking is determined on the basis of telicity of the predicate: perfective aspect marks telic eventualities, while atelic eventualities are by

default imperfective. On the next level of aspectual structure, sentential aspect, the contribution of telicity may be overridden by grammatical operators (IP-aspect) and, further, discourse-pragmatic aspectual triggers (CP-aspect). The aspectual systems in both grammars appear to be sensitive to grammatical triggers of imperfectivity, as evidenced by target-like use of grammatically-conditioned imperfectives in sentences constructed by heritage speakers. However, absence of the pragmatically-conditioned general-factual imperfective forms in production, along with diminished rates of acceptability and diverging interpretations of such forms in the heritage group in comprehension experiments, may be indicative of a gradual reorganization of the aspectual system instantiated in acrolectal varieties of heritage Russian, affecting the highest level of sentential structure, the domain of CP-aspect, where the syntactic information must be coordinated with discourse-pragmatic knowledge.

# Chapter 6 Competence Meets Performance: Linguistic Input and HLA

Recent cross-linguistic research examining interface phenomena in developing and intermittent grammars offers several possible reasons to explain difficulties observed in the acquisition and maintenance of structures in the C-domain, a syntactic level where linguistic structures are mapped onto discourse-pragmatic information (Avrutin, 1999; Platzack, 2001; Serratrice et al., 2004; Sorace, 2005; Tsimpli and Sorace, 2006; Sorace and Serratrice, 2009). The learnability of phenomena mediated at external interfaces in a variety of bilingual populations has been argued to be affected by such mutually non-exclusive factors as cross-linguistic influence, high processing demands, and quality and quantity of the linguistic input available to language acquirers. In the latter account, an individual's language competence is explicitly linked to frequency with which linguistic structures are encountered by that individual (Sorace and Serratrice, 2009). Thus, frequent and robust linguistic input provides more encounters with possible form-meaning mappings than infrequent and limited exposure to the target language, which in turn may have consequences for how quickly and effectively linguistic information is processed by speakers (Sorace, 2005) and, more generally, how fully and accurately it is acquired in L2 acquisition contexts and maintained in L1 attrition contexts. In the absence of continued robust input, structures that require integration of syntactic knowledge with discourse-pragmatic knowledge may not develop fully or may be attrited more easily. For example, studies reviewed in Sorace and Serratrice (2009: 201-202) report that bilinguals speaking English in combination with a null-subject language make

significantly more pragmatically inappropriate choices for overt pronouns than monolingual null-subject language speakers, including advanced (near-native) L2 learners and native speakers residing in an English-speaking environment for extended periods of time. Because English requires overt pronouns in all contexts, whereas the distribution of null and overt pronouns in null-subject languages is governed by discourse-pragmatic requirements such as a topic shift, infelicitous choices in the above-mentioned bilingual populations are attributed to routine use and processing of overt pronouns in English, which makes the overt anaphora a stronger candidate in situations of a competition between two forms in the language where both candidates are available (Sorace and Serratrice, 2009).

Evidence from adult L1 attrition studies, which point to interface vulnerability effects in bilingual populations, resulting in more frequent production of pragmatically inappropriate forms (Tsimpli et al., 2004) along with otherwise target-like linguistic competence, raises the question of whether competence divergence observed in HLA contexts may be related to the properties of the input available to heritage speakers during the language acquisition process. For example, Sorace (2005) hypothesized that qualitatively different input may affect linguistic representations, rather than merely increase processing difficulties for interface phenomena. Thus, children of bilingual speakers could be exposed to input that differs from the input available to monolingual language acquirers (Sorace and Serratrice, 2009: 202). In principle, then, it is possible that some of the properties instantiated in heritage grammars may be due not to attrition in its narrow sense, arrested development, or cross-linguistic influence from the language

that is more frequently used by these speakers *per se*, but to the nature and quality of linguistic input in the heritage language, from which the relevant structures are acquired.

This possibility raises the question to what extent linguistic input available to heritage speakers is similar to the input available to the monolingual speakers of Russian with respect to the use and comprehension of the general-factual imperfective with completed actions. In order to address this question, empirical data were obtained from bilingual Russian-English speakers – a group taken to represent the type of linguistic input that is available to heritage speakers during their linguistic development. Section 6.1 below presents the relevant demographic details.

### 6.1 Participants

The group of bilingual speakers consisted of 20 adults, mean age = 34 (range: 18-57), mean age of arrival to the US = 25 (range: 16-43), mean length of time in the US = 8 years (1-19). This group included 6 parents of adult heritage speakers, as well as 14 additional speakers of a similar sociolinguistic profile. All speakers in this group had acquired Russian in a monolingual setting prior to moving to the US and received at least secondary education in Russian, and currently report using both languages in daily communication. On average, speakers in this group reported using Russian 61.05% of the time (range: 15%-90%). On the basis of self-ratings provided by participants to estimate their proficiency in Russian on a ten-point scale, the following mean ratings were determined: ability to understand spoken Russian = 9.94 (range: 9-10), ability to speak Russian = 9.50 (6-10), ability to read in Russian = 9.94 (range: 9-10), ability to write in Russian = 9.50 (range: 7-10).

Table 1 below presents a summary of the demographic information for the two groups of bilingual participants: heritage speakers (HR), non-heritage bilingual Russian-English speakers residing in the US (BR).

| Speaker Type | N | Current age (mean) | Age of arrival (mean) | Time in US (mean) | MLS | Russian Use (percent) | On a 10-point scale, how well do you…. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | understand spoken Russian | speak Russian | read in Russian | write in Russian |
| HR | 23 | 21 | 5 | 16 | 7.08 | 23.18 | 8.37 | 6.74 | 4.79 | 3.42 |
| BR | 20 | 32 | 22 | 10 | 8.17 | 61.05 | 9.94 | 9.50 | 9.94 | 9.50 |

Table 1: A summary of demographic information for heritage speakers (HR) and adult Russian-English bilinguals (BR).

Notice that while both groups of speakers have resided in an English-speaking environment for an extended period of time, speakers in the non-heritage bilingual Russian-English group, who came to the US as adults, largely retain Russian as their dominant language of communication. Self-reported proficiency ratings also distinguish the bilingual group from the group of heritage speakers: the difference is particularly considerable on ratings with respect to skills related to literacy, such as reading and writing. Recall from the introductory discussion in Chapter 1 that, as a rule, heritage speakers' experience with formal schooling is restricted to the dominant language of the community; due to lack of formal training, these speakers often have difficulties with reading and writing in the heritage language. In contrast, because of a (relatively) more extended aural exposure to the language at home, these people may be fluent speakers

and may have fewer problems understanding the heritage language, particularly its less formal registers. The situation is altogether different from the adult bilingual speakers, who received ample exposure to the standard dialect via formal schooling prior to arriving in the US, and whose speaking and writing scores remain high despite a prolonged dissociation from the monolingual norm. Note, however, that the self-ratings of language skills related to production (speaking and writing) are slightly lower in the bilingual group than the ratings of language skills related to the comprehension of language (understanding spoken Russian and reading). In other words, people living in an English-speaking environment find themselves, on average, somewhat better at receptive language skills; producing language, in an oral or written form, becomes a somewhat more challenging task for these speakers, who report occasional difficulties with lexical retrieval and persistent transfer from English in their speech. In (169) below, several commentaries made by the bilingual speakers are provided in order to illustrate this point:

(169) A. "I am a native Russian speaker and I got my college education in Russia, having had intense courses of Russian in the College of Ministry of Foreign Affairs of Russian Federation. Thus, I believe I am a proficient Russian speaker, reader and writer. However, having lived in US for 10 years and having communicated mostly in English, I believe I have lost a lot of my ability to speak properly, my vocabulary is more limited now, though I try to read books in Russian to support it, it has not developed more since I left Russia. I find myself trying to remember simple words that I have forgotten because I have not been using them for a long time. That can be very frustrating and sometimes it makes me stutter! Reading in Russian is not a problem at all. However, my spelling and

punctuation are suffering now, since I have not been writing in Russian for a long time, and because I am now more used to American punctuation style, I feel confused about correctness of my punctuation in Russian."

B. "I'm setting 9 in writing because I may sometimes misspell some words when I'm writing in Russian and because I noticed that I form some sentences in the same manner I would in English."

C. "Every so often I catch myself using English words in a Russian sentence and/or structuring Russian sentence in English way."

D. "I listen to Russian rock and pop music, and I sometimes read non-fiction in Russian. I rarely get a chance to speak Russian, and I speak with an American accent when I do. I sometimes run into people who are Russian speakers in stores and other places but do not use the Russian language with them unless first addressed/spoken to in Russian. I do speak Russian when I go to a Russian store every once in a while (once or twice a year). Although I am obviously quite fluent in Russian, as a bilingual person, I have noticed that I have started forgetting Russian words. For example, sometimes I struggle to find the right word. Also, I have noticed that I have been out of touch with the modern Russian culture and thus sometimes I struggle to understand the new generations of Russians because I am not really familiar with their values and beliefs."

E. "I speak Russian to my son, who is 2.5. Which makes me feel that it's a bit limited use of Russian, since I am communicating with a child. Also, having lived in US for 10 years, I feel that I have forgotten a lot of words and expressions that

I normally would use, and find myself 'translating' American expressions from English into Russian, and sometimes I wonder if I speak Russian properly - but I try hard."

While it is generally recognized that the linguistic consequences of L1 attrition experienced in adulthood are not nearly as severe as L1 attrition in children (Montrul, 2008b, *inter alia*), recent linguistic research on adult L1 attrition suggests that some aspects of the linguistic structure are more permeable to loss than others. For example, Tsimpli et al. (2004) find no evidence of L1 attrition in adult bilinguals with respect to uninterpretable features, i.e. purely formal features such as Case and Agreement, which drive the syntactic derivation. In contrast, the authors find attrition effects in some aspects related to the syntax-pragmatic features that have interpretive effects (such as the constraints of pre- and post-verbal subjects), the so-called interpretable features (Tsimpli et al., 2004).

If linguistic phenomena mediated in the C-domain may be permeable to L1 attrition, we can expect that the Russian speakers in the bilingual group may exhibit patterns different from those found in the data from monolingual controls in their use of the imperfective aspect with total single events. Recall that heritage speakers used significantly fewer imperfective forms in the telic condition than speakers in the control group (Section 4.3.1); additionally, differences between these two groups were observed in interpretation and acceptability ratings of pragmatically-licensed imperfective forms in Russian (Sections 5.2.2 and 5.2.3). Recent proposals, which attribute some areas of competence divergence in heritage speakers to quantitative and qualitative properties of the input these speakers receive in the heritage language (Rothman, 2007, 2008; Pires and

Rothman, 2009), yield the question of whether bilingual Russian speakers' use and knowledge of the general-factual imperfective may offer some clues that would help account for the systematic patterns of divergence from the monolingual standard observed in the heritage group. This question is addressed in the following sections, which supplement the experimental results we have considered thus far with additional data from the bilingual speakers.

### 6.2 Bilingual Production: Experiment 1

The hypotheses and methodology for the sentence construction experiment (Experiment 1) are described in Section 4.3.1 above. Here, we examine the results from all three groups, illustrated in Figure 6 below. In the compositionally atelic condition, the bilingual speakers' results are virtually indistinguishable from the remaining two groups: the imperfective aspect is strongly preferred, with only 3.35% of perfective forms occurring with atelic predicates and the remaining 96.65% of forms surfacing as imperfective. Overall, all three groups converge on the use of the imperfective aspect in the presence of bare plurals and mass nouns in the direct object position within the VP. However, interesting patterns emerge in the compositionally telic condition: 78.06% of forms occur with the perfective aspectual marking and 21.94% of predicates are imperfective. Here, the bilingual speakers fall right between the monolingual and heritage speakers. A one-tailed paired t-test reveals a statistical difference just outside the significance range between the heritage and bilingual groups on the use of the imperfective with atelic predicates ($p > 0.07$). The same test reveals a very significant difference ($p < 0.002$) between the bilingual and monolingual speakers of Russian. These

findings suggest that bilingual speakers essentially pattern together with heritage speakers on the use of the imperfective aspect with total single events.

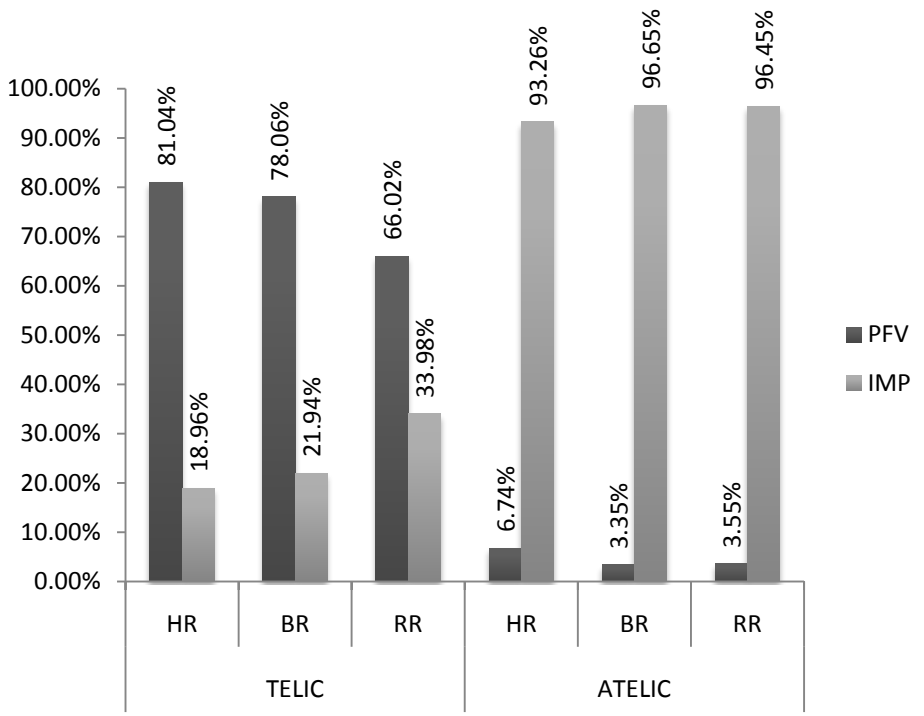



Figure 6: The distribution of PFV and IMP forms in compositionally telic and atelic contexts in the data from heritage speakers (HR), adult bilingual Russian-English speakers (BR), and speakers in the control group (RR).

The analysis of sentential contexts in which the imperfective forms were attested in the compositionally telic condition in the non-heritage bilingual group reveals that the 21.94% of imperfectives are comprised mainly of progressive and habitual forms (13.27%) and forms triggered by additional grammatical factors within the sentence (7.14%). Only 1.53% of predicates in the telic condition have the general-factual imperfective readings. Recall that speakers in the heritage group produced no general-

factual imperfectives, while the occurrence of these forms in the monolingual sentences was considerably higher at 6.80% of all telic forms.

Overall, these findings point to a potential source of competence divergence in heritage grammars. Russian-English bilingual speakers, who represent the main (and, in some cases, the only) source of linguistic input to heritage speakers, exhibit a statistically significant, compared to the monolingual standard, decrease in the production of imperfectives with completed actions. A closer look at the sentential contexts in which the imperfective forms are attested in the two groups points to the general-factual imperfective as a key area of divergence between the bilingual and monolingual Russian speakers, while absence of the general-factual imperfective in production is observed in the data from heritage speakers. This finding appears to corroborate previous hypotheses that link certain distinctive properties of heritage grammars to particular features of contact-based varieties that emerge in the context of a long-term dissociation from the standard dialect and a continued exposure to another language. If these potential factors have an effect on the linguistic performance of adult bilingual speakers, could their knowledge of the contextually-determined functions of the imperfective also be affected? This question is addressed in Section 6.3 below.

### 6.3 Bilingual Comprehension: Experiments 2 and 3

The reader is referred to Sections 5.2.2 and 5.2.3 above for a detailed description of Experiments 2 and 3, respectively. First, we will consider the results of the scaled acceptability judgment test (Experiment 2). Mean ratings for perfective and imperfective forms in given contexts are presented in Figure 7 below. On a four-point scale from 0 to 3, where 0 corresponds to “unacceptable,” 1 to “awkward,” 2 to “okay,” and 3 to

"perfect," the mean ratings for the bilingual group are 1.47 in the perfective condition and 2.59 in the imperfective condition. In both conditions, the bilingual speakers pattern together with the monolingual speakers in the control group: t-test shows no significant difference between the two groups in either condition ($p > 0.17$ for perfective forms, $p > 0.4$ for imperfective forms). However, bilingual speakers differ significantly from heritage speakers in their acceptability ratings of perfective and imperfective forms. In the perfective condition, a one-tailed paired t-test returns the p value $< 0.003$. In the imperfective condition, $p < 0.005$. Overall, then, it appears that speakers in the bilingual group exhibit fully target-like knowledge of the contextual factors as triggers of imperfectivity in Russian.

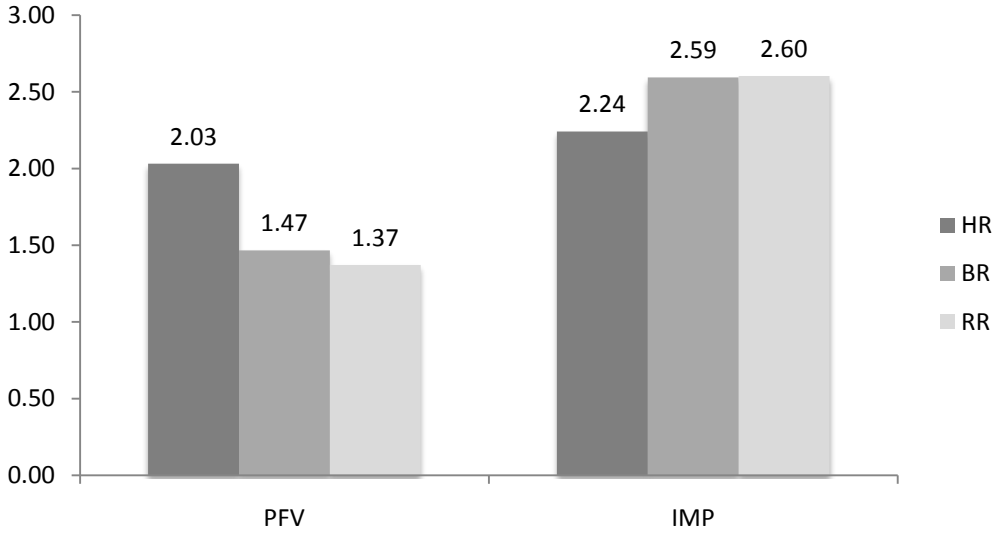



Figure 7: Mean ratings for PFV and IMP verbs in the data from heritage speakers (HR), adult bilingual speakers (BR), and speakers in the control group (RR).

Finally, let us consider the availability of the annulled result implicature of the general-factual imperfective, tested in Experiment 3. A total of 90.79% of imperfective forms on

the test receive the reversed action reading in the bilingual group. Once again, it appears that speakers in the bilingual group are fully target-like, with no significant differences between the two groups observed on a t-test ($p > 0.3$). However, there is a very significant difference between the Russian-English bilinguals and the heritage speakers on the comprehension of the reversed action implicature, as evidenced by a one-tailed t-test ($p < 0.003$). Figure 8 below illustrates the results.

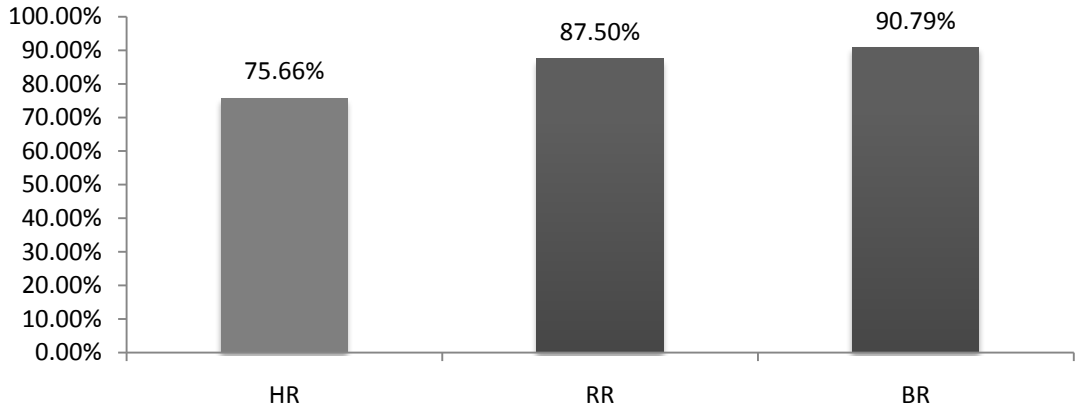



Figure 8: Mean percentages of IMP forms with an annulled result implicature for the group of heritage speakers (HR), Russian-speaking controls (RR), and bilingual Russian-English speakers (BR).

Overall, the results reported in this section yield some interesting generalizations. Bilingual speakers are found to pattern with heritage speakers in production, but with monolingual Russian speakers in comprehension tests, aimed at measuring the acceptability and interpretations of the general-factual imperfective. This result highlights an important difference between two types of bilingual populations examined in this study, suggesting that adult L1 attrition and heritage language acquisition are phenomena with different linguistic outcomes. While it appears that L1 attrition in adulthood does not

affect linguistic representations, despite a significant reduction in the distributional range of given linguistic forms in production, heritage language acquisition creates conditions for a divergent performance along with a reduced competence. Since the variety of Russian spoken by bilingual speakers is essentially what forms and feeds the linguistic representations formed in a HLA context, we may in fact be looking at a situation where competence meets performance across generations: divergent production patterns in bilingual populations give rise to what becomes competence divergence in subsequent generations of speakers.

If the input available to heritage language learners at home is not only reduced in quantity, compared to that available to monolingual language acquirers, but also exhibits patterns of reduced distribution of particular linguistic material, then, in the absence of sufficient additional input (e.g., through literacy), these learners may form linguistic representations and mental rules that comprise only a subset of those available to competent monolingual and bilingual speakers. This subset-superset relationship between the heritage and baseline grammars creates conditions for a covert divergence between the two linguistic systems: heritage speakers may remain non-target-like even when they do not commit errors, or exhibit overt deviations from the norm.

## 6.4 Summary and Conclusions

Assuming a multi-level model of aspect in Russian developed in Section 5.3.3, we are able to account for the areas of divergence and convergence between the monolingual and heritage grammars of Russian in a systematic and elegant way. The aspectual systems are identical on the default VP aspect level, where compositional telicity of the predicate determines its aspectual marking in a logically equivalent symmetrical

relationship between (a)telicity and (im)perfectivity. The two grammars diverge on the level of sentential aspect, where the default telicity-based aspectual values may be overridden by grammatical and discourse-pragmatic imperfectivizing triggers, resulting in possible mismatches between the telicity value of the predicate and its derived aspectual form. As heritage grammars become less sensitive to sentential triggers of imperfectivity, fewer imperfective forms may be expected to occur in production. This account makes correct predictions with respect to a perfective bias observed in production data from heritage speakers, who overall used fewer imperfective forms than monolingual Russian speakers on the sentence construction experiment[40] (Section 4.3.1). This difference was restricted to the compositionally telic condition, where default VP-level imperfectivity is excluded. In contrast, imperfectivity in the atelic condition is calculated at the level of the predicate. Target-like performance of heritage speakers in the compositionally atelic condition suggests that the two grammars are largely identical on this level. A statistically significant decrease of imperfective forms with compositionally telic predicates in the heritage group alongside a target-like use of imperfectives with atelic predicates points to a selective loss of the aspectual system, one that affects only the sentential level, located above the VP.

Imperfectivity on the sentential level is the outcome of three independent factors: a projection of atelicity (VP-aspect), the result of the application of grammatical triggers of imperfectivity (IP-aspect), or the outcome of the application of discourse-pragmatic triggers of imperfectivity (CP-aspect). Target-like use of grammatically-triggered

[40] An overall preference for perfective verbs has also been reported in spontaneous production: Polinsky (2009: 19) notes that "it seems that heritage speakers [of Russian] use a greater number of perfective forms (at least in spontaneous production)."

imperfectives at the IP-level on the sentence construction experiment, coupled with significantly lower rates of acceptability and non-target-like interpretations of discourse-pragmatically licensed imperfectives on two additional experiments, point to the conclusion that competence divergence in acrolectal heritage grammars is located in the CP-aspect domain, mediated in the highest sentential level known as the C-domain.

These findings, coupled with a review of data available in existing studies, contribute to a more fine-grained account of aspectual restructuring in heritage Russian. A focus on systematic reorganization in advanced heritage grammars makes it possible to formulate more detailed predictions about the nature, mechanism, and directionality of aspectual restructuring throughout the heritage continuum. As one possibility, I tentatively put forward the following model, aimed at capturing three stages in the restructuring of the aspectual opposition, correlated with sectors on the proficiency continuum. As shown in (170) below, these stages are implicationally ordered, and elements on the right entail the presence of all elements to the left.

(170)

| V-aspect | < | VP-aspect | < | IP-aspect | < | CP aspect |
|---|---|---|---|---|---|---|
| *basilectal* | | *mesolectal* | | *acrolectal* | | *baseline* |

Speakers of baseline Russian control the entire system of Russian aspect. Acrolectal (high-proficiency) speakers control most of the aspectual system, with the exception of aspectual functions mediated in the C-domain. I refer to aspectual information calculated at this level of sentential structure as CP-aspect. Although data from mesolectal and basilectal speakers were not examined experimentally in this work, I hypothesize, based on examples reported in earlier studies, that mesolectal speakers may be sensitive to

telicity exclusively at the verbal and VP-levels, while exhibiting few or no sentential aspect effects. On the basis of examples such as (172) and (172) below (from Polinsky, 1996), I tentatively conclude that operators above the VP-aspect level, such as HAB and PROG in the IP-domain, may not be fully operative in mesolectal grammars (and, by extension, in basilectal grammars). In the absence of active imperfectivizing operators, the derived sentential value of the predicate in these grammars remains identical to the default aspectual value of the VP (for activities and accomplishments) or V (for states and achievements). In the following examples, default perfectivity projects onto the sentential level despite the presence of imperfectivizers *nikogda* 'never' or *chasto* 'often.'

(171) Ja nikogda ne **prochital** ta kniga.
I.NOM never NEG read.PFV that.NOM book.NOM
'I never read that book' (cf. RR *chital*.IMP 'read')

(172) Moj djaja chasto on **prijexal** k nam v Brooklyn
my.NOM uncle.NOM often he.NOM came.PFV to us.DAT in Brooklyn
'My uncle often came to see us in Brooklyn' (cf. RR *prijezzhal*.IMP 'came')

Lack of sensitivity to IP-level aspect in mesolectal and basilectal grammars also predicts unavailability or instability of aspectualizers, which perfectivize atelic predicates in baseline varieties of Russian via temporal delimitation. Examples such as one in (173) below, reported in Polinsky (1996), suggest that this hypothesis is on the right track. The speaker is describing a short visit to Princeton (Polinsky, 1996: 54-55); in baseline Russian, the short duration of the visit would be reflected in the use of the prefix *po-*.

(173) Mne **nravilos'** v Princeton, no ja ljublju zhit' v Chicago
me.DAT liked.IMP in Princeton but I.NOM love.IMP live.IMP in Chicago
'I liked it in Princeton, but I prefer living in Chicago' (cf. RR *ponravilos'*.PFV 'liked')

Similarly, perfective verbs of inception, formed with the prefix *za-*, which slices out the beginning phase of the event denoted by the predicate, are predicted to be potentially problematic in non-acrolectal varieties of heritage Russian, in which IP-aspect phenomena may be affected by the reorganization of the aspectual system. Consistent with this prediction, the following examples illustrate either a straightforward omission, resulting in ungrammaticality, as in (174), or apparent retrieval difficulties, as in (175), attested with this prefix in the production data from a story-telling task, conducted with non-acrolectal heritage speakers (Laleko, 2007). Note that in example (175), the target inceptive form of the verb *sleep* is produced by the heritage speaker only after several pauses, false starts, hesitations, and an attempt to replace a potentially problematic word with a periphrastic construction:

(174) Masha prosnulas' i uvidela medvedi… medved'…
Masha woke-up.PFV and saw.PFV bears.NOM.PL bear.NOM.SG
ona **krichala** pomogite
she.NOM screamed.IMP help.IPR
'Masha woke up and saw the bears. She screamed, "Help!"' (cf. BR *zakrichala*.PFV)

(175) … i Masha zasnu… net … legla spat'… nu…. zasnula

and Masha … no lied.PFV sleep.INF well fell-asleep.PFV

'..and Masha fel… no… went to sleep… well… fell asleep'

If the implicational model in (170) above is on the right track, the existence of two distinct types of perfectivizing prefixes in Slavic occupying different structural positions, those generated within the VP and those that originate in syntactic positions outside the VP (classified, respectively, as qualifying and modifying (Isacenko, 1960), lexical and superlexical (Smith and Rappaport, 1997; Ramchand, 2004; Svenonius, 2004), or internal and external (Slabakova, 2005)), yields the prediction that mesolectal speakers of Slavic heritage languages in which the relevant distinction is available may exhibit more target-like patterns of aspectual marking with the former, rather than the latter, type of prefixes. Examples discussed so far are consistent with this prediction.

Implicational ordering of CP-level aspect and IP-level aspect finds independent support in studies investigating the status of internal and external interfaces in language development. Sorace and Serratrice (2009: 207) hypothesize that L1 attrition effects may manifest themselves initially only at the syntax-pragmatics interface, but at later attrition stages also at the syntax-semantics interface (p. 207). This prediction is in line with the aspect restructuring model in (170): CP-aspect, shown to posit problems for acrolectal speakers, represents the external interface between syntax and discourse-pragmatics, while IP-aspect, predicted to be affected in mesolectal heritage grammars, is determined at the internal interface between syntactically determined compositional telicity and semantic aspectual operators, i.e. the syntax-semantics interface.

Finally, the implicationally ordered model of aspectual reorganization in (170) predicts that speakers at the lowest end of the proficiency continuum retain aspectual distinctions only on a verb-by-verb basis. At this stage, morphosyntactic aspectual contrasts may no longer exist at all, with grammars exhibiting no sensitivity to compositional telicity at the VP-level, to semantic operators at the IP-level, or to discourse-pragmatic conditions operative at the CP-level. At this stage, the perfective-imperfective aspectual system is lost altogether, as argued in Polinsky (2009).

In accounting for possible factors affecting advanced heritage speakers' competence divergence in comparison with the monolingual data, the dissertation examined additional data from bilingual Russian-English speakers whose linguistic input most closely represents the baseline data that is actually available to speakers in the context of HLA. These findings are important for several reasons. First, production differences observed on the use of the imperfective aspect between bilingual Russian-English speakers and monolingual native speakers of Russian in the main control group point to the conclusion that the type of input received by heritage speakers from their parents (and more generally from speakers in the enclave Russian communities in the US) is not exactly analogous to the type of input available to monolingual language learners. Unlike monolingual language acquirers, whose linguistic input is relatively rich and abundant within and outside the home domain, the input available to heritage learners is by and large confined to the family and home domain. Parents are the most significant (and frequently the only) source of input in the heritage language for children in immigrant families (Kagan, 2005 and references therein). The observed difference between the bilingual and monolingual groups in the production of the imperfective

forms with total events provides an additional motivation for a more detailed examination of the linguistic input in future HLA research. As noted in Section 1.2.3 above, several proposals have already been put forward to view (at least some areas of) heritage competence divergence as a linguistic consequence of an impoverished input, rather than strictly as a result of arrested development, fossilization, and/or attrition in the context of language disuse.

The conclusions presented here have important implications for future linguistic research on heritage grammars, particularly research involving interface phenomena in the "vulnerable" C-domain (Platzack, 2001), an external interface domain where discourse-pragmatic factors are mapped onto grammatical principles. Difficulties with discourse-pragmatic constraints do not always lead to overt errors in production, especially in situations where two grammatical forms or options may (even if only partially) overlap. In these contexts, high proficiency heritage speakers may appear target-like, yet not actually be truly target-like in consistently preferring only one of the two (or more) available options. These findings are thus particularly relevant for future linguistic work with heritage speakers of intermediate-high and high proficiency levels, who are generally known to make fewer overt grammatical errors than lower-proficiency speakers (and are therefore sometimes excluded from linguistic studies). Yet, as the present work demonstrates, absence of overt errors in spontaneous production may not in itself be indicative of full convergence with the baseline, suggesting that empirical data from the corresponding baseline varieties, along with more fine-grained experimental techniques, can be crucial for uncovering covert patterns of systematic restructuring in a HLA context.

As this dissertation is being written, heritage language studies (HLS) is emerging as an interdisciplinary field of inquiry, aiming at promoting and facilitating language maintenance on an individual and ultimately a societal level in tandem with pedagogical research. In order to address the needs of heritage learners in the classrooms effectively, it is important to have a clear understanding of the nature of grammatical systems these learners already have, the principles of their development, and overt as well as covert properties that distinguish these systems from the corresponding baseline varieties. As noted in Brinton et al. (2008), the field of heritage language education, as many young fields in general, is in urgent need of theoretical research. It is hoped that the theoretical generalizations offered here have the potential of contributing to the literature that addresses the needs of heritage learners in the classrooms and translates theoretical advances into concrete pedagogical practices.

In particular, findings reported in this work offer important pedagogical implications for teaching aspect in a classroom context that involves high-proficiency heritage speakers. In treating the aspectual opposition largely as an equipollent one (i.e., each member has its own range of non-overlapping meanings), these speakers may not exhibit overt deviations from the standard prescriptive norm in instances when the imperfective does not "infringe" on the territory otherwise covered by the perfective. However, this is only a subset of the range of imperfective meanings available to competent speakers of Russian, and heritage learners may remain not entirely target-like in their use of the imperfective in more "peripheral" contexts even in the absence of errors with aspect. Thus, creating more exposure to and emphasis on the discourse-pragmatic conditions that license the imperfective with single completed events in

Russian through conversational practice, carefully designed dialogues and passages (rather than focusing on isolated phrases and sentences, which provide little discourse-pragmatic context) could help facilitate acquisition of the wider range of meanings associated with the imperfective aspect in Russian.

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