

What is so difficult about telicity marking in L2 Russian?*

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Two major mechanisms of encoding telicity across languages are either marking the object as exhaustively countable or measurable, or utilizing a specific prefix on the verbal form. English predominantly uses the first mechanism, while Russian mostly utilizes the second. The learning task of an English speaker acquiring Russian, then, is two-fold: to learn each individual verb with its subset of perfective prefixes, and to acquire knowledge of the fact that most prefixed verbs denote telic events. Sixty-six English-speaking learners of Russian as well as 45 controls took an on-line test of semantic interpretation. Results indicate that some low intermediate learners, and the majority of high intermediate and advanced learners are highly accurate in interpreting Russian telicity marking. It is argued that the difficulty in acquiring Russian aspect lies in learning the lexical items signaling telicity, but crucially NOT in learning the grammatical mechanism for telicity marking.

1. Introduction

Aspect has been widely identified as the area presenting the most significant challenge to second-language learners of Russian. The following citation from the pedagogical literature illustrates the common perception:

For speakers of English and other language learners who are only familiar with other, structurally similar Western European languages, the Russian verbal system is a TANGLED WEB OF UNSEEN CONNECTIONS AND MORPHOLOGICAL PITFALLS. While the number of tenses is limited to present and past with a compound, non-inflected future and the only mood, *per se*, is the indicative, the complexities of the aspectual system offset any perception of simplicity. (Altman, 1992, p. 52)

In this article, I argue that “the tangled web” mentioned above combines two learning tasks that are worth teasing apart: acquiring the knowledge that a prefixed verb denotes a telic event, and learning all individual prefixes that are selected by a specific verb. The first type of knowledge involves acquisition of the semantic reflex of a functional category, while the second task essentially involves a mapping problem: the lexical learning of different morphemes instantiating the functional category. In acquiring Russian, English native speakers have to switch to a way of marking telicity different from their native way. My experimental results indicate that most advanced and high intermediate, as well

as some low intermediate Russian L2 learners have successfully acquired the grammatical mechanism of marking telicity. I suggest that mapping problem difficulties may persist in interlanguage development long after the actual acquisition of a functional category has been completed.

This interpretation naturally invites the question of what constitutes evidence for successful acquisition of a functional category. Let us consider the three types of knowledge to be acquired. These are:

- (1) morphological reflexes: target-like usage of inflectional and/or derivational morphology (if any);
- (2) syntactic reflexes: knowledge of feature strength, which would result in movement prior to or after spell-out, case-marking, etc.; and
- (3) semantic reflexes: knowledge of the semantic properties of the functional category, or what meanings are computed when the particular functional category is checked.

Both groups of researchers – those who claim that full acquisition of L2 functional categories is feasible (e.g. Epstein, Flynn and Martohardjono, 1996; Flynn, 1996; Schwartz and Sprouse, 1996; Haznedar and Schwartz, 1997; Lardiere, 1998a, b, 2000; Prévost and White, 1999, 2000, among others) and those who consider access to functional categories to be severely restricted (Smith and Tsimplici, 1995; Hawkins and Chan, 1997; Meisel, 1997; Tsimplici and Roussou, 1991) – have investigated the syntactic reflexes of functional morphology in interlanguage production. For example, Lardiere (2000) studied the linguistic production of a Chinese learner of English whose L2 morphological form diverges considerably from

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that of the target language input. In order to assess whether the learner had a TP (Tense Phrase) in her interlanguage grammatical system, Lardiere looked at overt syntactic effects of a TP projection, like nominative case checking and (lack of) overt verb movement (among others). Lardiere suggested that the learner demonstrated the presence of a TP projection, even if she did not produce past tense morphology reliably (around 35% of the time), because she produced nominative subjects 100% of the time and failed to raise main verbs (the correct option for English). White (2003a) takes a very similar approach, comparing correct suppliance of inflectional morphology with syntactic reflexes of functional category knowledge in the linguistic performance of SD, a fossilized Turkish learner of L2 English. Thus, in investigating the morphological form to syntactic feature mapping, one type of evidence for acquisition of feature strength comes from overt movement, agreement, case-marking, and other syntactic effects. Another type of evidence may come from directly investigating the semantic reflexes of functional categories, as revealed in L2 comprehension. For example, if on hearing a past tense form a learner understands that a past time event or state is encoded, this would also constitute evidence that the learner has incorporated the functional category TP into her interlanguage grammar.

This study takes a novel approach to functional category acquisition by zooming in on the semantic reflexes of functional features and morphology, and highlighting a possible dissociation between knowledge of semantic effects and knowledge of the semantics–morphology mapping. In this respect, the study informs the recent discussion in the literature on the (im)possibility of acquiring L2 grammatical features and computational mechanisms not instantiated in the L1. In section 2, we look at the mechanisms for encoding telicity in English and Russian. It will be argued that English typically signals the telicity value of a sentence through functional morphology added to the object, while Russian does the same through adding perfective prefixes to the verbal root. The issue of the relationship between telicity and perfective prefixes will also be discussed (section 2.3). Next, a syntactic account of the parametric difference between English and Russian will be given. Section 3 will lay out the learning tasks and research hypotheses, while section 4 will describe the experimental study and its results. Finally, in section 5 the findings and their implications will be discussed.

2. Telicity and perfectivity

Telicity is a universal semantic feature encoded in one way or another by all verbal predicates. Telic events have inherent endpoints, or culminations, after which they cannot continue, e.g. *eat a/the cake*, *find a wallet*,

swim ten laps in the pool. Atelic events do not have such inherent endpoints, e.g. *eat cake*, *swim laps in the pool*. The semantic feature [\pm telic], together with other features, is taken to mark “lexical aspect” (a.k.a. “situation aspect”, Smith, 1991), since it is manifested at the level of the verbal projection. Generally speaking, a property of the object and a property of the verb together yield telic or atelic interpretations of verbal phrases (VPs).

2.1. Telicity marking in English

Two major mechanisms of “composing” telicity have been identified in the literature (Krifka, 1992, 1998; Verkuyl, 1972, 1993, 1999). One mechanism is to combine a non-stative (dynamic) verb with an object which is marked as exhaustively countable or measurable (a quantized object, in Krifka’s terminology; a specific quantity object, in Verkuyl’s terminology). English uses this object-marking mechanism in (most) accomplishment and activity predicates. Quantized nominal arguments combined with dynamic verbs bring about a telic interpretation as in (1); homogeneous objects contribute to an atelic interpretation as in (2) (Verkuyl, 1972; Krifka, 1998).¹ Notice that quantization is orthogonal to definiteness, since both the indefinite nominal argument *an apple* and the definite *the apple* are quantized.

- (1) Claire ate an apple/the apple/three apples/a bag of popcorn in 5 minutes.
- (2) Claire ate apples/popcorn for an hour/*in an hour.

To be sure, this object-marking mechanism does not extend to all VPs: telicity is partly determined by the lexical semantics of the verb. The difference between the telicity values of *drive a car* (atelic) versus *make a car* (telic) is clearly due to lexical differences between the two verbs. Verbs of creation (*make*, *write*) and verbs of consumption (*eat*, *drink*), among others, are unified by the following property: they have Incremental Theme objects (Dowty, 1991) as in (1) and (2) above. These

¹ The terms “homogeneous” and “quantized” may be in need of further clarification. In order to understand homogeneous reference, two other fundamental notions should be introduced: cumulative reference and divisive reference (Link, 1983; Krifka, 1989). If a predicate refers cumulatively, then if it applies to each of two entities, it applies to their join as well. On the other hand, if a predicate refers divisively, then if it applies to an entity, it applies to all parts of that entity, if there are any. Finally, a predicate with both cumulative and divisive reference has homogeneous reference. Take, for example, the noun *water*: the join of two amounts of water will still be water (cumulativity), and parts of water will still be water (divisibility). Hence, *water* has homogeneous reference. Quantized predicates, on the other hand, are the exact opposite. If we take *a glass of water* as an example of a quantized predicate, it is clear that a glass of water and another glass of water do not make a glass of water. Proper parts of a glass of water are not the same thing as a glass of water. Thus, *a glass of water* is a quantized predicate.

objects are affected by the event in a special way, and according to three recent theoretical accounts, “measure out” the progress of the event (Tenny, 1994); their discrete parts map to parts of the event (Krifka, 1992), or serve as an “event odometer” (Verkuyl, 1993). For example, in driving a car, observing the state of the car is not really going to tell us much about the progress of the event. But in making a car, we can measure out the progress of the event by observing how much of an actual car is already in existence: whether it has two wheels or four, whether it has the doors installed, etc.²

Activity verbs taking Incremental Themes (e.g. *write*, *read*) can turn into accomplishments by the addition of a quantized object (*write a letter/the letter/two letters*). Stative verbs (*love*, *belong*), some activity verbs (*drive*, *push*) and achievement verbs (*recognize*, *reach*) do not take Incremental Themes. Subsequently, their objects’ quantization cannot change these predicates’ telicity values.³ We can think of these latter verbs as inherently, or lexically, (a)telic. In this experimental study, we will only be looking at activity and accomplishment predicates with Incremental Theme objects.

2.2. How does Russian mark telicity?

A second mechanism of marking compositional telicity is to utilize a specific prefix on the verbal form. In article-less Slavic languages (e.g. Russian, Polish, Czech), the object’s quantization does not play a large role in compositional telicity. These languages utilize the verb-marking mechanism of signaling (a)telicity, at least for activities and accomplishments with Incremental Theme objects. In what follows, we will concentrate on Russian, the language whose acquisition is under investigation.

Russian verbal forms exist in simple and perfective forms, where the simple form is most often atelic (e.g. *jest’ tort* “eat cake”) while the perfective form is normally telic (e.g. *s-jest tort* “eat the cake”) (Brecht, 1984; Paducheva, 1990, among others). There are nineteen perfective prefixes in Russian, each combining idiosyncratic lexical meaning(s) with the basic telicity meaning, exemplified in (3b). Each verb selects for a number of prefixes, with subsequent changes in lexical meaning, cf. (3c–f).

- (3) a. *pisat’* “write, be writing”
 b. *na-pisat’* “write up”

² It is interesting to note, in this respect, that Finnish marks Incremental Theme objects with partitive case, if the whole predicate is given an atelic interpretation, and with accusative, if the interpretation is telic.

³ Take, for example, the stative predicates *love sushi* versus *love this color*: no matter whether the object is quantized or not, the predicate is still stative. The same is true of *drive a car* versus *drive cars*. Achievements like *reach the summit* work a bit differently. The predicates *reach summits*, *recognize friends* refer to unbounded sequences of culminating instantaneous events.

- c. *pod-pisat’* “sign”
 d. *do-pisat’* “write to the end (something that was started before)”
 e. *pere-pisat’* “write out again”
 f. *po-pisat’* “write for a while”

In the above examples, the form in (3a) is the simplex, imperfective form. The addition of the prefix *na-* contributes an inherent endpoint to the event of writing and makes the verb perfective. In this example, we can classify *na-* as a purely telic marker, without any additional idiosyncratic meaning, because all it adds to the verbal meaning is a potential endpoint. In (3c–e), however, we have prefixes *pod-*, *do-*, and *pere-*, which add lexical meanings of their own to the verbal root meaning, over and above signaling telicity. *Pod-* changes the verbal meaning from *write* to *sign*, while *do-* adds the meaning of finishing off something that had begun but was interrupted. *Pere-* is akin in function to the English prefix *re-*, as in *re-do*, *re-read*. In this sense, we can view perfective prefixes as derivational, not inflectional morphemes. As derivational affixes, they all carry some grammatical categorial meaning (i.e. they are verbal morphology), but not all carry additional lexical meaning.⁴

So, how does Russian mark telicity? Examples in (4) illustrate that the VP telicity value (as a rule) depends on the presence or absence of a perfective prefix, and not on the object’s quantization. The sentences in (4a, c) have an atelic VP, although the object is non-quantized in (4a) and quantized in (4c). The VPs in (4b, d) are both interpreted as telic, since they have a perfective verb, regardless of the non-quantized (4b) or quantized (4d) objects.

- (4) a. *Maša jela tort.* (atelic)
 Masha eat-PAST cake-ACC
 “Masha was eating cake/Masha used to eat cake.”
 b. *Maša s-jela tort.* (telic)
 Masha PERF-eat-PAST cake-ACC
 “Masha ate the cake.”

⁴ In this article, I leave aside the secondary imperfective morpheme *-yva-*, which is more akin to inflectional morphology. It applies on perfectivized verbs only (see (ib)) and imparts the meaning of an open-ended series of completed events.

- (i) a. *pro-čitat’* “read out” – *pro-čit-yva-t’*
 “read out in full every time”
 b. **čit-yva-t’* “read every time”

Additionally, I consider the semelfactive suffix *-nu* as in (ic) below to have essentially the same function as perfective prefixes, the only difference being the lexically encoded prefix/suffix status of the morpheme. Notice, for example, that both the suffix *-nu* and the prefix *po-* make the verb *knock* semelfactive, hence telic.

- (i) c. *stučat’* “to be knocking”
stuknut’ “to knock once”
po-stučat’ “to knock (on the door)”

- c. Maša jela kusoček torta (atelic)
Masha eat-PAST piece cake-GEN
“Masha was eating a piece of cake/Masha used to eat a piece of cake.”
- d. Maša s-jela kusoček torta (telic)
Masha PERF-eat-PAST piece cake-GEN
“Masha ate the/a piece of cake.”

The question in the title of this section, then, receives a clear answer: Russian marks telicity by adding (a subset of) perfective prefixes to simplex verbal roots. In this respect, it is different from English. It is another question altogether if perfective prefixes can be equated with telicity markers. We turn to this question in the next section.

2.3. Approaches to Russian (and Slavic) perfective prefixes

The relationship between telicity and perfectivity is far from straightforward. It is not the case that all imperfective verbs are interpreted as atelic.⁵ Neither is it the case that all perfective verbs are telic (see Borik, 2002, for extensive discussion of aspectual tests).⁶ Thus, strictly speaking, perfectivity cannot be completely equated with telicity. However, to maintain this broad picture would be to miss an important generalization, and throw away the baby together with the bath water. Most perfective prefixes and telicity markers across the languages of the world have the same meaning: potential endpoint of the event. Furthermore, careful examination of Slavic perfective prefixes reveals that they are not a homogeneous group (Babko-Malaya, 1999; Filip, 2001; Di Sciullo and Slabakova, in press), but can be divided into two types: “internal” and “external” ones. Internal prefixes may change the telicity of the verbal projection they are part of, whereas external prefixes do not have this effect (see footnote 4). Take, for instance, the external prefix *po-* “do something for a while” in (3f) and in example (i), footnote 4. It has adverbial properties in the sense that it provides adverbial-like modification to the eventuality

⁵ Some conventional uses of this phenomenon include the examples in (i) and (ii) from Borik (2002):

- (i) Ja ne pojdu v kafe, ja (uže) jela.
I not PERF-go-PRES in café I already IMP-eat-PAST
I am not going to the café, I have already eaten.
- (ii) Petja otkryval okno, poetomu v komnate tak xolodno.
Petja IMP-open-PAST window that is why in room so cold
‘Petja opened the window, that’s why it’s so cold in the room.’

⁶ For example, the perfective prefixes *po-* and *pro-* delimit the interval during which the event was in progress, but do not mark a culmination in that event; again, examples from Borik (2002):

- (i) Petja po-iskal knigu.
Petja PERF-search-PAST book
‘Petja looked for a/the book.’
- (ii) Petja pro-sidel v tjur'me 5 let/do starosti.
Petja PERF-sit-PAST in prison 5 years/till old age
‘Petja stayed in jail for 5 years/until his old age.’

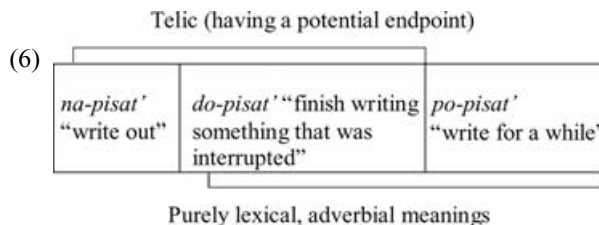
denoted by the root. On the other hand, the internal prefix *na-* as in (3b) has very different properties. It does not contribute anything to the verbal root meaning except telicity, an inherent endpoint to the eventuality. It can be regarded as a pure telicity marker, not contributing any idiosyncratic lexical information to the root apart from an inherent endpoint (see Di Sciullo and Slabakova, in press, for numerous linguistic tests supporting this distinction).⁷

An important additional observation about perfective prefixes is in order here. Since all Slavic prefixes are polysemous, we can only speak of particular ‘senses’ of each prefix. For example, *na-* has a sense in which it is purely telic, as in (5a), and at least two more senses in which it has a telic meaning plus a lexical meaning when combined with other lexical verbs, as in (5b, c).

- (5) a. *na-pisat'* “write up”
b. *na-gotovit'* “cook something **in big quantities**”
c. *na-boltat'sja* “chat with someone **to one’s heart’s content**”

Thus, throughout this article, when I say “purely telic prefix” I actually mean “a purely telic sense of a prefix.”

The following diagram attempts to visualize the three types of perfective prefix meanings described above:⁸



The first two boxes are filled by “internal” prefixes (Di Sciullo and Slabakova, in press), ones that change the telicity value of the verb. They constitute the large

⁷ The literature on Slavic aspect is divided on the issue of whether Slavic perfective prefixes fall in the domain of grammatical (viewpoint) or lexical (situation) aspect. Most researchers (Comrie, 1976; Kučera, 1983; Dahl, 1985, among others) agree that Slavic aspectual prefixes mark specific ways of presenting the situation as a process, a telic event, or a state. But it is also true that the vast majority of research on Slavic aspect does not necessarily refer to the two levels of aspect marking. Thus we can only conjecture on how most researchers would solve the viewpoint versus situation aspect issue. Among the ones who do have a clear position, Smith (1991, see Chapter 10 written with Gilbert Rappaport) and Borik (2002) claim that perfective prefixes encode viewpoint aspect. However, Brecht (1984), Filip (1993, 1994), Piñon (1993) and Verkuyl (1999) argue convincingly that Slavic prefixes’ contribution to the overall aspectual makeup of the sentence is at the VP (or situation aspect) level. Brecht (1984, p. 12) explicitly relates prefixes to telicity marking. In this paper, I follow Brecht, Filip, Piñon, and Verkuyl, and refer the reader to the original literature. For more evidence supporting this claim, see Slabakova (2001, pp. 86f.).

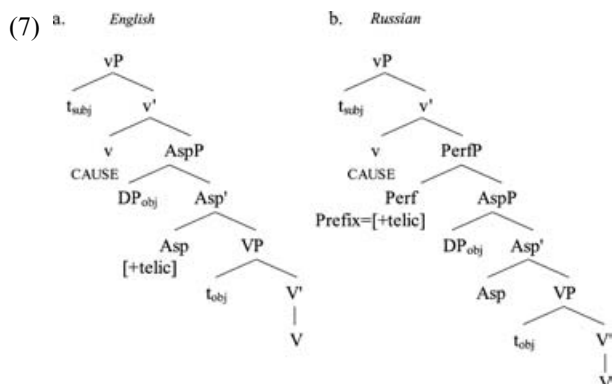
⁸ Prefixes in (6) are, of course, all specified as perfective. We could also think of the purely telic prefixes as specified for the features [+perfective, +telic] while the purely lexical prefixes are [+perfective, –telic]. I am grateful to an anonymous reviewer for demanding this clarification.

majority of all perfective prefixes in the language; in a sense, they represent the rule. Incremental Theme verbs take purely telic prefixes to mark inherent endpoint of the event (see the left-hand box in (6)). They can also take telic prefixes with additional lexical meanings (the middle box). The right-hand box contains “external” prefixes with adverbial meaning only, the main examples being *po-* and *pro-* (in only one of its senses). These can largely be regarded as exceptions to the rule “a prefixed verb denotes an event with a potential endpoint”. In our experiments we employ ONLY prefixes that are pure telicity markers (e.g. *na-pisat'* in (5a) above) and attach them to simple activity verbs. In other words, we are testing knowledge of the feature specifications of purely telic prefixes.

To summarize the previous three sections, let me reiterate that not all Russian perfective prefixes have telicity as a component of their meaning, and it would be a misrepresentation to equate perfective prefixes and telicity markers. But a very large subset of perfective prefixes (17 out of 19) do signal the potential endpoint of the event encoded by the verbal root. If we look at this complex picture from the telicity perspective, however, we will ask the question: How do English and Russian mark telicity on activity and accomplishment verbs? In response to this question, the two mechanisms delineated above emerge: To mark telicity, English uses the quantization of the object, while Russian uses perfective prefixes.

2.4. A syntactic analysis

Following Smith (1991), I have argued that Russian and English exhibit two different values of a telicity marking parameter (Slabakova, 1997, 2000, 2001). In capturing the aspectual distinction in phrase structure, I adopt the syntactic decomposition of eventive verbs approach, following Larson (1988), Pustejovsky (1991), Travis (1992) and Hale and Keyser (1993). The trees in (7a, b) illustrate the proposed phrase markers for English and Russian, respectively. Readers should keep in mind that these trees and the compositional telicity calculation they illustrate are only valid for the default case of eventive verbs taking Incremental Theme objects (see Slabakova, 2001, for analyses of the other aspectual classes).



Let us concentrate on the English tree in (7a) first. The VP shell structure (Larson, 1988) reflects the semantic fact that events may be viewed as having at least two subevents (Dowty, 1979): a causative subevent and a resultant state. The light vP denotes the causative subevent and the lower VP denotes the resultant state subevent of the eventive classes. This decomposition is reflected by postulating a null CAUSE morpheme in the head of the vP in a VP shell structure (Hale and Keyser, 1993; Chomsky, 1995; Pesetsky, 1995).

Event participants (arguments) take part in the aspectual composition through case checking in AspP (accusative case) and TP (nominative case). AspP is an important functional category for telicity construal. The object moves to the spec of AspP to check accusative case and the verb moves to the head Asp (Travis, 1992; Borer, 1994; van Hout, 1996; Schmitt 1996). It is at this point, in a spec-head relationship with the verb, that the object DP imparts its temporal-bounding properties to the verb. Depending on a verbal feature (stative or dynamic) and on a nominal feature (specified or unspecified cardinality), the telicity of the whole VP is calculated (Verkuyl, 1993). Whenever the object is of specified cardinality, the interpretation is one of a telic event. Whenever the object is of unspecified cardinality, being a mass or bare plural noun, the interpretation is atelic.⁹ Thus the independently needed mechanism of accusative case checking is also used for aspectual feature checking at the syntax–semantics interface.

In Russian (see (7b)), the telic morpheme is overt; it is a derivational morpheme, usually a prefix, on the verb. It occupies the head of a functional projection Perfectivity Phrase (PerfP), a position higher than the one in English.¹⁰ If a prefix is in the Perf^o, a position from which it

⁹ As it stands, this formulation is too strong, of course. As discussed in note 3, stative verbs are atelic regardless of their objects (e.g. *John likes the girl next door, Mary hates this house*). *Push*-type verbs are also not affected by the quantization of their objects (e.g. *John pushed the cart, Mary drove the red car* are atelic). My analysis captures these facts by postulating that both stative and *push*-type verbs are marked with an atelic feature in the lexicon. Hence, their objects' cardinality is irrelevant for the aspectual composition. The experiment described in this article does not include such verbs.

¹⁰ The analysis I present here has Russian perfective morphemes in a higher, c-commanding position as compared to the functional projection where English telicity is calculated and where the optional telicity-marking particles may be situated (e.g. *up in eat up*). Strictly speaking, the experiment does not test the scope effects that obtain from the difference in positions, but the overt versus covert quality of the telicity morpheme. Therefore, I will not offer extensive justification for the higher position of the Russian morpheme and will refer the reader to Slabakova (1997, 2001) for more arguments.

An anonymous reviewer asks a related question: Why is AspP necessary at all in Slavic if the object type does not contribute to the aspectual interpretation. In comparing Slavic and English, I have assumed the English tree in (7b) following Borer, van Hout, Schmitt, and Travis, among others. Maintaining maximum consistency among languages of the world, I assume that Slavic languages have the same case marking mechanism as English. Some data from Bulgarian

c-commands the object, the interpretation is telic. If there is no prefix in the Perf^o, then the interpretation is atelic. Consequently, the cardinality of the object in Russian does not matter for aspectual interpretation, it is only the presence or absence of prefix that signals (a)telicity.

An important feature of this analysis is that it represents perfective prefixes, which are after all derivational morphemes, as having grammatical (functional) meaning and thus occupying a functional category. I believe we are justified in doing this, because the various polysemantic derivational morphemes, barring some exceptions, have a common function to perform, namely, signalling a telic VP. But why should telicity have a privileged status among other lexical meanings of perfective prefixes to the extent that we view it as a sort of “grammatical” meaning? The concept of completion of an event has been viewed as seminal and somehow primitive in philosophical and semantic work on aspect (see Kenny, 1963; Vendler, 1967; Verkuyl, 1972, 1993). It is equated with the feature [+change of state] in the quadripartition of situational types: i.e. it embodies one of the basic features distinguishing between situational types observable in the extra-linguistic reality. Perhaps even more important in arguing for a privileged status of the telic meaning is the fact that languages of the world often mark it with grammatical means. In the English accomplishments with Incremental Themes, the telic meaning is signaled by the presence of definite, indefinite or quantified objects and the atelic meaning is signaled by mass or bare plural objects, i.e. by inflectional morphology. In Finnish the same meanings are marked by accusative and partitive case endings, respectively, again inflectional morphology. Compared to telicity, none of the other lexical meanings reflected in perfective prefixes (e.g. manner, intensity, large number of affected participants, repetition, iterative or semelfactive nature of the event) is as cognitively primitive, nor is it commonly rendered by grammatical morphology in languages of the world.

The analysis presented above is just one proposal among many. The experimental tasks do not depend on the details of the syntactic trees and the mechanism for case and telicity calculation. What is important to note is the different character of the telicity marking morphemes: obligatory perfective prefix in Russian accomplishments; optional telic particle in English and obligatory

support this extension: Bulgarian, a Slavic language, does exhibit the English telicity marking mechanism for a few borrowed verbs which take no prefix, like *arestuvam* ‘arrest’ and *remontiram* ‘fix up’ (see examples and more evidence in Slabakova (2001, pp. 88–98)). The same is true for Russian also. At least for those verbs, AspP will be the crucial case-checking as well as aspectual projection. However, when a perfective prefix is present, it imposes its telicity value on the whole predicate, overriding the object contribution. That is why I believe both functional projections, AspP and PerfP, to be necessary in the tree in (7a).

quantization marking on the object. Any syntactic analysis will have to account for these linguistic facts.

3. Learning tasks and research hypotheses

When English native speakers are acquiring Russian, they are faced with the following two tasks regarding lexical aspect: they have to acquire knowledge of the fact that most prefixed verbs are telic (see exceptions in note 4); and to learn each individual verb with its subset of perfective prefixes. For example, in learning the lexical item for “write” (see (3) above), a learner has to know that the root *pisat*’ is imperfective and denotes an atelic event akin to *be writing*, as well as that its perfective equivalent *na-pisat*’ denotes a telic, complete event akin to *write up*. In other words, the learner has to acquire knowledge of the fact that interpretable features of Russian telicity morphemes still have to be checked in a functional category, say, PerfP, but unlike English, Russian telicity is marked on the verb. I consider this process acquisition of a functional category meaning, or grammatical learning.

However, the prefix *na-* is not the only pure telicity marker. The verb *est*’ “eat” takes a different prefix to signal telicity: *s-jest*’. A number of other prefixes also have this function: *vy-* as in *vy-pit*’ “drink up”; *po-* as in *po-želat*’ “wish”; *v-* as in *v-ljubiti’sja* “fall in love” are just a few examples. Thus, a learner is not faced with a regular inflectional morpheme signaling telicity every time it is attached to an atelic root, but a number of derivational morphemes lexically selected by individual verbs. The learning task is complicated by prefixes, which signal telicity and have additional lexical meanings (3c–e). The task is complicated even further by the polysemous nature of many prefixes, cf. *na-*, which can have a purely telic sense, as in (5a) above, but also can have a telic plus lexical sense, as in (5b, c). In short, there is a lot of lexical learning to be done in acquiring Russian lexical aspect over and above acquiring the knowledge that aspectual prefixes signal telicity and have to be checked in a functional category.

In this work, I assume that the initial state of L2 acquisition is the L1 grammar, as argued for in the early work of White (White, 1985, 1986, 1989) and more recently by Schwartz and Sprouse (1994, 1996), Montrul (1997) and Brown (1998), among many others. White (1989) argues that learners initially adopt the L1 value of a parameter. Schwartz and Sprouse’s Full Transfer/Full Access hypothesis extends White’s claims to the whole initial state of the L2 grammar. They argue that “all the principles and parameter values as instantiated in the L1 grammar immediately carry over as the initial state of a new grammatical system on first exposure to input from the target language” (Schwartz and Sprouse, 1996, p. 41).

What pattern of acquisition does L1 transfer predict in this case? If UG allows access to all the values of

parameters, parameter resetting can occur in most cases. But what would the initial hypothesis of learners of Russian look like? Assuming their native English value, learners are expected to pay attention to the form of the object at the start of acquisition. If a non-stative, dynamic verb combines with a singular countable object (e.g. *pis'mo* “letter”) or an overtly determined/quantified object (e.g. *etot fil'm* “this movie”, *dva svitera* “two sweaters”), learners are predicted to treat the whole VP as telic, since quantized objects of this type bring forward a telic interpretation in English. If, on the other hand, the object is a mass or bare plural noun, learners are predicted to initially interpret the VP as atelic. For example, they are expected to interpret both sentences in (4a) and in (4b) above as atelic past events, given that the object in both sentences is the mass noun *tort* “cake”.¹¹ Along the same lines, learners are predicted to interpret the VPs in (4c, d) as telic, since they contain the quantized object *kusoček torta* “a piece of cake”. However, once learners notice that Russian nominal arguments do not mark telicity, they will know that prefixed verbal forms denote complete events, and interpret (4a, c) as atelic but (4b, d) as telic.

4. The study

4.1. Participants

Sixty-six learners of Russian as well as 45 controls took an on-line test, posted on the Internet. The experimental materials were linked to the Russian and East European studies program website of a research university in the US. Participation was solicited through browser notice boards, e-mail to Russian departments in the US and Canada, and advertising on the Linguist List. Participation was entirely voluntary and could be interrupted at any time. Individuals were not financially compensated for their time and effort. Russian native controls who had lived outside Russia or another Russian-speaking country for more than five years were discarded from consideration, since it was deemed possible that some first language attrition might have started. The vast majority of Russian learners were college students in the US, the rest were academics or other professionals. Table 1 lists the relevant participant information.

4.2. Tasks and materials

A cloze test was used to divide the learners into proficiency groups. It presented continuous text, a fairy tale about the four seasons, with 30 blanks. Participants had to choose which is the best word for the blank, out of the

¹¹ This hypothesis assumes that even if the learners do not know whether *cake* in Russian is used as a mass or a count noun, they will map the Russian lexical item onto their English nominal feature specification.

Table 1. *Participants' information.*

		Age	Age of first exposure to Russian	Lived outside of a Russian-speaking country
Natives	mean	32.2		
	(n = 45)	range	18–57	n.a. 2.3 years
Non-natives	mean	23.2	14.83	n.a.
	(n = 66)	range	19–46	12–24

three choices the test provided. Only one answer was appropriate in each case.

(8) *An example of a cloze test sentence*

Leto prineslo ej bol'soj buket
 summer brought her big bouquet
 tjul'panov i rozy/rozy/roza . . .
 of tulips-GEN and roses-NOM/roses-GEN/rose-NOM
 “Summer brought her a big bouquet of tulips and roses . . .”

The main task of the study was an interpretation test. Participants read a sentence and chose which of the continuations provided (labeled A, B, and C) was logically possible, or made sense. In order to choose a continuation, Russian speakers had to interpret the event as complete (telic) or incomplete (atelic). In order to test for L1 transfer, three conditions with 10 sentences per condition manipulated the form of the object, as shown below. Condition A involved mass and bare plural objects. Assuming L1 transfer, these objects could initially be interpreted by beginning learners as signaling an atelic interpretation of the VP (see section 3 above). Recall that learners were predicted to pay attention to the form of the object at the outset of acquisition, provided that the verb is dynamic and takes an Incremental Theme.

Condition A: objects are mass and bare plural nouns

- (9) Maša vezla detej domoj . . .
 Masha drove children home
 a. no deti ješčo ne doma.
 “and the children are not at home yet.”
 b. i deti uže doma.
 “and the children are now at home.”
 c. Oba A i B vozmožny. ⇐ CORRECT
 “Both continuations above are possible.”
- (10) Maša pri-vezla detej domoj . . .
 Masha PERF-brought children home
 a. i deti uže doma. ⇐ CORRECT
 “and the children are now at home.”
 b. no deti ješčo ne doma.
 “and the children are not at home yet.”
 c. Oba A i B vozmožny.
 “Both continuations above are possible.”

Condition B had singular count objects, while in Condition C objects were modified by an overt demonstrative pronoun or quantifier. Assuming initial L1 transfer, these quantized objects would support a telic VP interpretation (again, given that the verb is dynamic and takes an Incremental Theme). Note that in condition B, the absence of an article should not confuse the learners. No matter whether they interpret the object as “a sandwich” or “the sandwich”, it is still quantized.

Condition B: objects are countable and singular

- (11) Daša ela buterbrod...
Dasha ate sandwich
a. i ničego ne ostalos' ot buterbroda.
“and there is none of it left.”
b. no ostalsja ješčo kusoček.
“and there is some of it uneaten.”
c. Oba A i B vozmožny. ⇐ CORRECT
“Both continuations above are possible.”
- (12) Daša s'-ela buterbrod...
Dasha PERF-ate sandwich
a. no ostalsja ješčo kusoček.
“and there is a piece of it uneaten.”
b. i ničego ne ostalos' ot buterbroda.
⇐ CORRECT
“and there is none of it left.”
c. Oba A i B vozmožny.
“Both continuations above are possible.”

Condition C: objects are modified by overt demonstrative pronoun or quantifier

- (13) Včera večerom ja smotrel etot fil'm...
yesterday evening I watched this movie
a. i dosmotrel do konca.
“and I watched it to the end.”
b. no ne dosmotrel do konca.
“and did not watch it to the end.”
c. Oba A i B vozmožny. ⇐ CORRECT
“Both continuations above are possible.”
- (14) Včera večerom ja po-smotrel etot
yesterday evening I PERF-watched this
fil'm...
movie
a. no ne dosmotrel do konca.
“and I did not see it to the end.”
b. i dosmotrel do konca. ⇐ CORRECT
“and I watched it to the end.”
c. Oba A i B vozmožny.
“Both continuations above are possible.”

A fourth condition, D, tested learners' interpretation of objects, but it is not reported on in this article. There were also ten fillers, yielding a total of 50 test

sentences. In every condition, there were five sentences with imperfective verbs and five others using the purely telic, perfective equivalent of the same verbs. (The rest of the sentences and examples of fillers is presented in the Appendix.)

It is important to note that since the imperfective aspect highlights the progress of the event but not its final endpoint, the correct response for all imperfective sentences in the three conditions is “Both continuations above are possible”.¹² But the atelic answer “and did not finish acting out the event” is more salient than the strictly speaking “correct” response, so it was also accepted as correct. Thus, only one out of three responses was appropriate in perfective sentences but two out of three in imperfective sentences.

The order of appearance of the test sentences was randomized. The “complete” and the “non-complete” continuations randomly appeared as answer A or answer B, but the “Both continuations above are possible” answer always appeared last.

Test sentences were widely piloted on Russian native speakers. They were built around aspectual pairs of imperfective and perfective verbs. The main criterion for including a verb was whether or not it took an Incremental Theme object. Only purely telic perfective prefixes, as in (3b) above, were used, to the exclusion of prefixes with additional lexical meanings, as in (3c–e). All verbs were high frequency, basic vocabulary lexical items. The aspectual verb pairs used in the experimental task appear in (15). It is not easy to translate Russian aspectual pairs into English, since English verbs do not always have an unambiguously telic form with a telic particle. Readers should bear in mind that the first form in a pair, the imperfective, can be translated as “to be verb-ing” or “to verb habitually”, while the second form, the perfective, means “to verb and finish verb-ing, to verb to the end”.

- | | |
|------------------------|--|
| (15) myt' “wash” | – vy-my't' “wash to the end” |
| vezti “drive somebody” | – pri-vezti “bring somebody somewhere” |
| pisat' “write” | – na-pisat' “write out” |
| stroit' “build” | – po-stroit' “build up” |

¹² An anonymous reviewer points out that with imperfective sentences, all three options are possible. The telic option would be chosen if speakers construct more discourse context (which is not given to them by the test). This is, strictly speaking, true and indeed the telic option is included in the combined response. However, by choosing the telic option, the speakers would indicate that for them this is the salient choice TO THE EXCLUSION OF the atelic option, which, of course, is not correct for Russian imperfective sentences. The native speaker responses (see Table 3 below) confirm this choice of coding the results.

Table 2. Experimental groups according to the proficiency test scores.

	Natives (n = 41)	Advanced (n = 26)	High Intermediate (n = 20)	Low Intermediate (n = 20)
Mean	29.7	28.3	24.5	15.9
SD	0.5	1.1	1.6	3.57
Range	28–30	27–30	21–26	10–20
Different from native speakers	–	$p < .05$	$p < .0001$	$p < .0001$

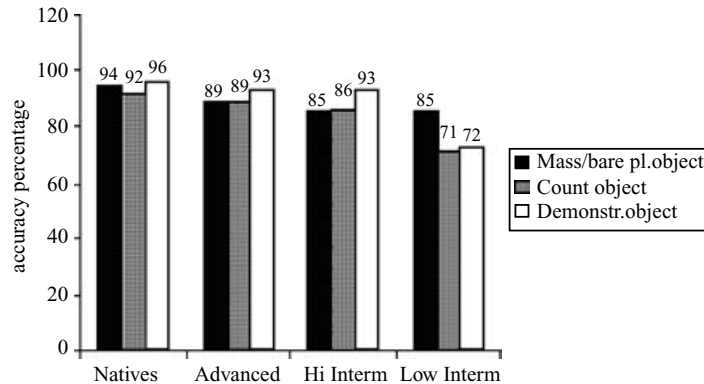


Figure 1. Accuracy on imperfective sentences.

risovat’	“paint”	– na-risovat’	“create a painting/picture”
est’	“eat”	– s-jest’	“eat up”
čistit’	“clean”	– vy-čistit’	“clean up”
smotret’	“watch (a movie)”	– po-smotret’	“see (a movie)”
vjazat’	“knit”	– s-vjazat’	“knit to the end”
pit’	“drink”	– vy-pit’	“drink up”
gotovit’	“cook”	– pri-gotovit’	“cook”
čitat’	“read”	– pro-čitat’	“read to the end”

4.3. Group results

The cloze test results were used as a measure of proficiency in Russian. Learners were divided into Advanced, High Intermediate and Low Intermediate groups. Table 2 gives the relevant statistical information. All the learner groups were statistically different from the native speaker controls and from each other in their performance on the proficiency test, as ascertained by ANOVA.

Next, we turn to the results of the interpretation test. Figure 1 represents the participants’ accuracy on imperfective sentences. Recall that in order to be judged to perform accurately on those, a speaker must choose either the atelic option, or the combined telic and atelic options.

Analysis of variance (General Linear Model, repeated measures) was performed on the accuracy data from imperfect sentences only, with group (Native Speakers, Advanced, High Intermediate, Low Intermediate) as the between-subjects factor and type of object (mass/bare plural, count, demonstrative) as a within-subject factor. There was a significant effect for group ($F(3,440) = 22.7$, $p < .0001$), and for type of object ($F(2,330) = 4.35$, $p = .043$) and an interaction between the two factors ($F(6,440) = 7.56$, $p = .02$). Post-hoc Tukey HSD tests revealed that only the Low Intermediate group was significantly different in accuracy from all the rest of the groups, but the High Intermediate, Advanced and Native Speaker groups did not differ in accuracy.

However, reporting the accuracy of the participants may obscure some of the choices they have made, since two correct answers were accepted and collapsed in the imperfective sentences. Thus, it could be the case that native speakers only chose the combined telic and atelic answer while the learners only chose the atelic interpretation. That is why a closer look at imperfective sentences in the three conditions is warranted. Table 3 shows the type of interpretation chosen with imperfective sentences in the three conditions based on different object types. This is how the table should be read: in imperfective sentences with mass or bare plural objects (Condition A), the native speaker controls chose a telic interpretation 5.7% of the time, the salient atelic interpretation 26.2%

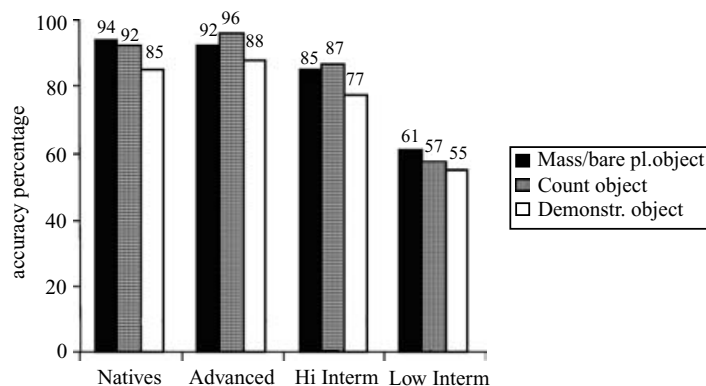


Figure 2. Accuracy on perfective sentences.

Table 3. Type of interpretation chosen with Imperfective accomplishments with three different types of objects (in percentages).

Interpretation	Controls	Advanced	High Intermediate	Low Intermediate
Condition A: Mass/bare plural objects				
telic	5.7	10.7	15	15
atelic	26.2	46.9	42	25
both	68	42	43	60
Condition B: Count objects				
telic	8.8	11.5	14	29
atelic	28	45.5	46	21
both	63.2	43	40	50
Condition C: Demonstrative objects				
telic	4.4	6.9	7	28
atelic	22.2	36.9	47	20
both	73.4	56.2	46	52

Note: Answers accepted as correct are in the grey area.

of the time, and they opted for a combined telic/atelic response 68% of the time.

Let us look more carefully at the native speaker choices first. Roughly speaking, they choose the combined interpretations about two-thirds of the time, and the salient atelic interpretations a third of the time. The type of object does not appear to matter for the native speakers, since their choices are consistent across conditions ($F(2,132) = 2.05, p = .133$). In comparison with the native speakers, the Advanced and the High Intermediate learners seem to prefer the atelic and the combined options roughly equally. In other words, for them the atelic interpretation is more salient than it is for the natives, who can perhaps imagine a wider variety of contexts more easily. Again, for those two learner groups the type of object does not have an effect on their interpretation ($F(2,75) = 1.09, p = .33$

and $F(2,57) = .51, p = .6$, respectively). They have already acquired knowledge of the fact that objects do not matter in Russian and they have to pay attention to the presence or the absence of the perfective prefix in order to calculate the telicity of these sentences.

Next, we zoom in on the performance of the Low Intermediate group. If there is any evidence of transfer from the native language, those are the learners that are most likely to demonstrate it. Their error rate as reflected in Table 3 is important in this respect. They are much more likely to (incorrectly) say that an imperfective sentence should be interpreted as telic when the object of that sentence is countable (29%) or demonstrative (28%) than they are when the object is a non-quantized bare plural or mass noun (15%). This error rate is exactly as expected. The type of object has a significant effect on their choice of interpretation ($F(2,57) = 4.59, p = .03$). However, in more than half of the cases they choose the correct combined answer, suggesting that knowledge of imperfectivity interpretation is already appearing in their interlanguage grammars. Keeping in mind that chance performance is around 66.6% for imperfective sentences (due to the two possible answers in the task), the low proficiency learners seem to be performing above chance ($t = .022$).

Next we look at performance on perfective sentences. Mean accuracy of interpretation is given in Figure 2. The same type of analysis of variance (General Linear Model, repeated measures) was performed on the other half of the data: the accuracy results on perfective sentences. There was a significant effect of group ($F(3, 440) = 45.02, p < .0001$) and an effect for type of object ($F(2, 330) = 3.74, p = .025$). Their interaction, however, was not significant ($F(6, 440) = .37, p = .89$), suggesting that as learners' overall proficiency develops, they also learn not to pay attention to the type of object in calculating the telicity value of a sentence. Post-hoc Tukey HSD tests showed once again that the Low Intermediate group was significantly different in accuracy from all the rest of the groups. The Native Speakers, the High

Table 4. Type of interpretation chosen with Perfective accomplishments with three different types of objects (in percentages).

Interpretation	Controls	Advanced	High	Low
			Intermediate	Intermediate
Condition A: Mass/bare plural objects				
telic	94	91.5	85	61
atelic	0.4	3	4	14
both	4.6	4.5	11	25
Condition B: Count objects				
telic	92	96.2	87	57
atelic	2.6	0	5	20
both	5.4	3.8	8	23
Condition C: Demonstrative objects				
telic	84.6	87.7	77	55
atelic	0.4	3.8	9	23
both	15	8.5	14	22

Note: Answers accepted as correct are in the grey area.

Intermediate and the Advanced learners did not differ in accuracy. Controls and learners were significantly less accurate on sentences with demonstrative objects than on sentences with mass/bare plural ($p = .022$) and countable ($p = .008$) objects. Table 4 gives the more detailed interpretation choice for all conditions.

Recall that the chance level in this category of sentences is 33.3%. If they were randomly picking answers, the low intermediate learners would be right one time out of three. However, they are accurate between 55% and 61% of the time. This accuracy is again different from chance ($t = .00026$), as it was on the imperfective sentences. In other words, when faced with a perfective verb, they are already likely to choose a complete (telic) paraphrase, and when faced with an imperfective sentence, they are also more likely to choose an atelic paraphrase or an open-ended interpretation than a telic one.

4.4. Individual results

Group results may be misleading when considering second language learner knowledge of a grammatical phenomenon. A group mean, especially if it is low, may be due to half the learners in that group performing accurately, and the other half performing inaccurately. Therefore, it is important to look at individual results as well. Eighty per cent accuracy, or four out of five correct answers in a condition, was chosen as the cutoff point for accepting that an individual participant had acquired the property in question.

Tables 5 and 6 present the number of individuals in each group who could safely be assumed to have performed

Table 5. Individuals per participant group who are 80% accurate on imperfective sentences.

	Mass/bare plural object	Count object	Demonstrative object
Controls (n = 45)	45 (100%)	45 (100%)	45 (100%)
Advanced (n = 26)	24 (92%)	22 (85%)	24 (92%)
High Intermediate (n = 20)	17 (85%)	18 (90%)	19 (95%)
Low Intermediate (n = 20)	14 (70%)	11 (55%)	12 (60%)

Table 6. Individuals per participant group who are 80% accurate on perfective sentences.

	Mass/bare plural object	Count object	Demonstrative object
Controls (n = 45)	41 (100%)	41 (100%)	41 (100%)
Advanced (n = 26)	25 (96%)	25 (96%)	22 (85%)
High Intermediate (n = 20)	16 (80%)	17 (85%)	13 (65%)
Low Intermediate (n = 20)	8 (40%)	7 (35%)	8 (40%)

accurately on imperfective and perfective sentences in the interpretation task. It is important to notice the high percentage of individuals in the Advanced and the High Intermediate groups who have acquired the semantic effect of the aspectual functional category checking. These results come in full support of the group results reported above. However, note that even in the Low Intermediate group, more than half of the learners are highly accurate on imperfective sentences, and more than a third have acquired the Russian mechanism of telicity marking (Table 6).

Clearly, these individual results lend support to the group result findings. It can be safely assumed that the conclusions drawn in the discussion section below are not based on (potentially) statistically misleading averages.

5. Discussion and conclusions

The central concern of this study was whether adult English-speaking Russian learners could acquire linguistic competence of the aspectual functional category, converging on the grammar of native speakers. Competence in the aspectual domain was defined as: first, knowledge of the interpretive effect of the presence of perfective prefixes and their meaningful absence, and secondly, as lexical knowledge of perfective prefix morphemes. The

first type of knowledge represents successful engaging of the functional category in which the interpretive feature is checked; the second type of knowledge involves the lexicon at the semantics–morphology interface. Results of the interpretation test on the perfective/imperfective contrast in Russian administered to 66 learners and 45 native speakers showed that functional category acquisition is not only possible but actually accomplished by the great majority of learners. Advanced and high intermediate learners' performance on imperfective sentence interpretation and advanced learners' performance on perfective sentences were statistically indistinguishable from native speakers' performance. Even more importantly, the low proficiency learners as a group have also successfully acquired the telicity marking mechanism in the L2.¹³ These findings were corroborated by the fact that the majority of individuals in the advanced and high intermediate groups, and even roughly eight out of 20 low intermediate learners, were 80% accurate on both types of sentences.

Why then is the perception so prevalent and persistent that Russian aspect is extremely difficult to learn? Where does the real difficulty lie, if it is true, as I have argued, that most of the participants in this experiment have already acquired the basic functional meaning of aspect? I suggest that the (perception of) difficulty comes from the formidable lexical learning task. As discussed in section 3, verb-learning in Russian presents specific challenges. It is not enough to learn a verbal root, say, *pis-at* 'write', as in Romance and Germanic L2 learning. Rather, verbs should be learned in clusters. Apart from the simplex imperfective form, most verbs have a purely telic counterpart, but these vary for each verb. For example,

pisat 'write' will take *na-* but *jest* 'eat' will take *s-*, etc. Next, the cluster should be expanded with telic + lexical prefix and verb combinations, like *pod-pisat* 'sign', which would encode a variety of related meanings. Finally, the different senses of each prefix should be acquired, e.g. *po-* may be telic in *po-smotret* 'see' but simply adverbial in *po-spat* 'sleep for a while'. A learning task of such complexity is likely to take a lot of time and effort, hence the prevalent perception of enormous difficulty.

In light of the theoretical approach assumed, and based on the learners' high accuracy on the interpretation test, it must be the case that the perceived difficulty in acquiring Russian aspect lies in learning the LEXICAL ITEMS signaling telicity, but crucially NOT in learning the GRAMMATICAL MECHANISM for telicity marking. Further psycholinguistic research on the mental lexicon of L2 Russian learners is necessary, of course, to empirically confirm the first part of this conclusion.

The important issue of transfer from the native language remains to be discussed. The design of the experiment addressed this issue by providing learners with perfective and imperfective sentence conditions crossed with type of direct object: non-countable bare plurals and mass nouns, countable nouns in the singular, and nouns modified by demonstrative pronouns. Given that their native English uses the form of the object to mark telicity, the prediction was that especially the low proficiency learners would initially pay attention to, and hence be influenced by, the type of object in a sentence. In particular, it was expected that those learners would be more accurate on imperfective sentences with non-count objects, since they would map them onto English activities (e.g. *eat cake*, *eat apples*). On the other hand, it was expected that the same learners would be aided by countable and especially demonstrative objects in interpreting perfective sentences, again based on their English grammar (e.g. *eat this cake*, *eat an apple*). These predictions were partially confirmed by the error rates on imperfective and perfective sentences (see Tables 3 and 4). In particular, the Low Intermediate learners chose a telic interpretation of an imperfective sentence more frequently when the object of that sentence was countable (29%) or demonstrative (28%) than when the object was a bare plural or mass noun (15%). The type of object also seemed to have a little facilitating effect in perfective sentence comprehension: they (incorrectly) interpreted non-quantized objects to point to an atelic interpretation only 14% of the time, as compared to 20% and 23% with quantized objects. The traces of L1 transfer are only to be found at this low level of proficiency, and as expected, they disappear altogether at the higher proficiency levels.

How can we explain the fact that the learners' response pattern to the imperfective stimuli is different from that of the native speakers? The native speakers choose the combined "both atelic and telic interpretations

¹³ An anonymous reviewer asks why I consider the Low Intermediate group to have acquired the telicity marking mechanism given that only one-third of the low intermediate learners responded to the perfective stimuli in a native-like matter. Many researchers of generative SLA have emphasized the need to consider interlanguage grammars in their own right with respect to the acquisition of grammatical properties. They have warned against the Comparative Fallacy, originally due to Robert Bley-Vroman (1983) for L2A and Grimshaw and Rosen (1990) for L1A. Recently, White wrote that "the crucial question [in L2A research] is whether or not interlanguage grammars are UG-constrained, rather than whether or not they are native-like" (White, 2003b, p. 55). It is a fallacy to compare L2 learners' performance (especially low proficiency ones) with native speakers' performance. The necessary and sufficient evidence for success in acquiring L2 properties is to show that learners treat the constructions under investigation differently. I believe that the low proficiency learners' performance indicates that they have a contrast in their grammar between perfective and imperfective verbs' interpretations. In other words, they do not take perfective and imperfective sentences to mean the same thing. This conclusion is supported by the learners' accuracy being higher than chance on both perfective and imperfective sentences. If they had no perfective-imperfective contrast in their interlanguage grammars, we would expect chance accuracy, which is not the case.

are possible” with imperfective sentences about two-thirds of the time, and the atelic interpretations a third of the time. In comparison, the Advanced and the High Intermediate learners seem to prefer the atelic and the combined options roughly equally (see Table 3 for details). In other words, the atelic interpretation is more salient for the learners than it is for the natives. Although I have warned against committing the Comparative Fallacy (Bley-Vroman, 1983, see footnote 13) by comparing native speakers’ and second language learners’ grammars, this diverging pattern of answers may merit notice and discussion. I should reiterate that both the “atelic” and the “telic or atelic” interpretations are correct given the test sentences, hence the divergence is a matter of PREFERENCE or SALIENCE but not of choosing unacceptable interpretations. The perfective aspect is the marked member of the aspectual opposition, while the imperfective is the unmarked. Keeping in mind all the qualifications that I have made in section 2.3, perfective sentences are true only if the events encoded in their predicate have an inherent endpoint (i.e. are telic), while imperfective sentences mostly denote atelic but sometimes denote telic events as well. Context is necessary to support the telic interpretations (see examples in footnote 5). I submit that the native speakers can more easily imagine a wider variety of contexts, as compared to even the advanced learners in this study. However, I believe this divergence from native patterns is not a difference in the grammatical systems underlying their performance. If interlanguage grammars were different from native grammars, we would expect diverging performance on the perfective member of the opposition, contrary to fact (see Table 4).

Finally, most learners’ superior performance on the semantic reflexes of a functional category in this experimental study constitutes support for the hypothesis that access to functional categories in adult non-native acquisition is not impaired but is in fact fully operational (Epstein et al., 1996; Flynn, 1996; Schwartz and Sprouse, 1996; Haznedar and Schwartz, 1997; Lardiere, 1998a, b; Prévost and White, 1999, 2000, among many others).

To conclude, this experimental study has suggested that in the examination of L2 functional category acquisition, semantic effects of those categories are worth investigating. What is more, it is important to tease those effects apart from the lexical knowledge of the relevant morphology. Knowledge of semantic interpretation and semantics–morphology mapping are both necessary conditions for convergent language acquisition; however, one of these aspects of functional category knowledge may develop faster, or even instantaneously.¹⁴ The other

aspect may present a (formidable) challenge to learners’ memory and lexicon-learning skills. In particular, it was demonstrated here that the common perception that Russian aspect is extremely difficult to acquire stands in need of correction. What is difficult about Russian telicity marking is probably learning the various lexemes (aspectual prefixes) that can check the aspectual functional category. What is not difficult at all is acquiring the knowledge that a prefixed verb denotes a telic event, independent of its direct object. In extending the research program of the L2 generative endeavor, careful examination of how the semantics–morphology interface is acquired can offer yet another perspective to our growing understanding of the human language faculty.

References

- Altman, L. (1992). Why are Russian verbal aspects so hard to learn? *CLN*, 23, 52–53.
- Babko-Malaya, O. (1999). Zero Morphology: A study of aspect, argument structure, and case. Ph.D. dissertation, Rutgers University.
- Bley-Vroman, R. (1983). The comparative fallacy in interlanguage studies: The case of systematicity. *Language Learning*, 33, 1–17.
- Borer, H. (1994). The projection of arguments. In E. Benedicto & J. Runner (eds.), *Functional projections* (University of Massachusetts Occasional Papers in Linguistics 17), pp. 19–47. Amherst, MA: GLSA.
- Borik, O. (2002). Aspect and reference time. Ph.D. dissertation, LOT (Netherlands Graduate School of Linguistics).
- Brecht, R. (1984). The form and function of aspect in Russian. In M. Flier & R. Brecht (eds.), *Issues in Slavic morphosyntax* (UCLA Slavic Studies 10), pp. 9–33. Columbus, OH: Slavica Publishers.
- Brown, C. (1998). The role of the L1 grammar in the L2 acquisition of segmental structure. *Second Language Research*, 14, 136–193.
- Chomsky, N. (1995). *The minimalist program*. Cambridge, MA: MIT Press.
- Comrie, B. (1976). *Aspect*. Cambridge: Cambridge University Press.
- Dahl, Ö. (1985). *Tense and aspect systems*. Oxford: Basil Blackwell.
- Di Sciullo, A.-M. & Slabakova, R. (in press). Quantification and aspect. In H. Verkuyl, H. de Swart & A. van Hout (eds.), *Perspectives on aspect* [working title]. Dordrecht: Kluwer Academic Press.
- Dowty, D. (1979). *Word meaning and Montague grammar*. Dordrecht: Reidel.
- Dowty, D. (1991). Thematic proto-roles and argument selection. *Language*, 67, 547–619.
- Epstein, S., Flynn S. & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences*, 19, 677–714.
- Filip, H. (1993). Aspect and the interpretation of nominal arguments. *Papers from the 28th Regional Meeting of the*

¹⁴ When I say “fast”, I mean it in terms of proficiency, not in terms of actual time. Acquisition is fast because the change to the other parameter value is accomplished at a low level of proficiency.

- Chicago Linguistic Society, 139–158. Chicago, IL: The University of Chicago Press.
- Filip, H. (1994). Aspect and the semantics of Noun Phrases. In C. Vet & C. Vetters (eds.), *Tense and aspect in discourse*, pp. 227–255. Berlin: Mouton de Gruyter.
- Filip, H. (2001). Nominal and verbal semantic structure: Analogies and interactions. *Language Sciences*, 23, 453–501.
- Flynn, S. (1996). A parameter-setting approach to second language acquisition. In W. Ritchie & T. Bhatia (eds.), *Handbook of second language acquisition*, pp. 121–150. San Diego, CA: Academic Press.
- Grimshaw, J. & Rosen, S. T. (1990). Knowledge and obedience: The developmental status of the binding theory. *Linguistic Inquiry*, 21, 187–222.
- Hale, K. & Keyser, J. (1993). On argument structure and the lexical expression of syntactic relations. In K. Hale & J. Keyser (eds.), *The view from Building 20*, pp. 53–109. Cambridge, MA: MIT Press.
- Hawkins, R. & Chan, C. (1997). The partial availability of Universal Grammar in second language acquisition: The ‘failed functional features hypothesis’. *Second Language Research*, 13, 187–226.
- Haznedar, B. & Schwartz, B. (1997). Are there optional infinitives in child L2 acquisition? In E. Hughes, M. Hughes & A. Greenhill (eds.), *Proceedings of the Boston University Conference on Language Development*, pp. 257–268. Somerville, MA: Cascadilla Press.
- Van Hout, A. (1996). Event semantics of verb phrase alternations: A case study of Dutch and its acquisition. Ph.D. dissertation, Tilburg University. Published in 1998 by Garland Publishing, New York.
- Kenny, A. (1963). *Action, emotion, and will*. London & New York: Routledge & Kegan Paul.
- Krifka, M. (1989). Nominal reference, temporal constitution and quantification in event semantics. In R. Bartsch, J. van Benthem & P. van Emde Boas (eds.), *Semantics and contextual expressions*, pp. 75–115. Dordrecht: Foris.
- Krifka, M. (1992). Thematic relations as links between nominal reference and temporal constitution. In I. A. Sag & A. Szabolcsi (eds.), *Lexical matters*, pp. 29–53. Palo Alto, CA: CSLI.
- Krifka, M. (1998). The origins of telicity. In S. Rothstein (ed.), *Events and grammar*, pp. 197–235. Dordrecht: Kluwer.
- Kučera, H. (1983). A semantic model of verbal aspect. In M. Flier (ed.), *American contributions to the Ninth International Congress of Slavists*, vol.1: *Linguistics*, pp. 171–184. Columbus, OH: Slavica.
- Lardiere, D. (1998a). Case and Tense in the fossilized steady state. *Second Language Research*, 14, 1–26.
- Lardiere, D. (1998b). Dissociating syntax from morphology in a divergent end-state grammar. *Second Language Research*, 14, 359–375.
- Lardiere, D. (2000). Mapping features to forms in second language acquisition. In J. Archibald (ed.), *Second language acquisition and linguistic theory*, pp. 102–129. Malden, MA & Oxford: Blackwell.
- Larson, R. (1988). On the double object construction. *Linguistic Inquiry*, 9, 335–391.
- Link, G. (1983). The logical analysis of plural and mass terms: A lattice-theoretical approach. In R. Bäuerle, C. Schwartze & A. von Stechow (eds.), *Use and interpretation of language*, pp. 302–323. Berlin: Mouton de Gruyter.
- Meisel, J. (1997). The acquisition of the syntax of negation in French and German: Contrasting first and second language acquisition. *Second Language Research*, 13, 227–263.
- Montrul, S. (1997). The L2 acquisition of dative experiencer subjects. *Second Language Research*, 13, 264–298.
- Paducheva, E. V. (1990). From the lexical meaning of the verb to its aspectual characteristics, [Original title: Vid i leksicheskoe znachenie glagola: Ot leksicheskogo znacheniya glagola k ego aspektual'noy kharakteristike]. *Russian Linguistics*, 14 (1), 1–18.
- Pesetsky, D. (1995). *Zero syntax*. Cambridge, MA: MIT Press.
- Piñon, C. (1993). Nominal reference and the imperfective in Polish and English. *Proceedings of NELS*, 383–397.
- Prévost, P. & White, L. (1999). Accounting for morphological variation in L2 acquisition: Truncation or missing inflection? In M. A. Friedemann & L. Rizzi (eds.), *The acquisition of syntax: Issues in comparative developmental linguistics*, pp. 232–235. London: Longman.
- Prévost, P. & White, L. (2000). Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement. *Second Language Research*, 16, 103–133.
- Pustejovsky, J. (1991). The syntax of event structure. *Cognition*, 41, 47–81.
- Schmitt, C. (1996). Aspect and the syntax of noun phrases. Ph.D. dissertation, University of Maryland at College Park.
- Schwartz, B. & Sprouse, R. (1994). Word order and nominative case in non-native language acquisition: a longitudinal study of (L1 Turkish) German interlanguage. In T. Hoekstra & B. Schwartz (eds.), *Language acquisition studies in generative grammar*, pp. 317–368. Amsterdam: John Benjamins.
- Schwartz, B. & Sprouse, R. (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research*, 12, 40–72.
- Slabakova, R. (1997). Bulgarian preverbs: Aspect in phrase structure. *Linguistics*, 35, 673–704.
- Slabakova, R. (2000). L1 transfer revisited: The L2 acquisition of telicity marking in English by Spanish and Bulgarian native speakers. *Linguistics*, 38, 739–770.
- Slabakova, R. (2001). *Telicity in the second language*. Amsterdam: John Benjamins.
- Smith, C. (1991). *The parameter of aspect*. Dordrecht: Kluwer. Second edition 1997.
- Smith, N. V. & Tsimpli, I.-M. (1995). *The mind of a savant: Language learning and modularity*. Oxford: Blackwell.
- Tenny, C. (1994). *Aspectual roles and the syntax–semantics interface*. Dordrecht: Kluwer.
- Travis, L. (1992). Inner aspect and the structure of VP. *Cahiers Linguistiques de l’UQAM*, 1, 130–146.
- Tsimpli, I.-M. & Roussou, A. (1991). Parameter setting in L2? *UCL Working Papers in Linguistics*, 3, 149–169.
- White, L. (1985). The pro-drop parameter in adult second language acquisition. *Language Learning*, 35, 47–62.
- White, L. (1986). Implications of parametric variation for adult second language acquisition: An investigation of

the 'pro-drop' parameter. In V. Cook (ed.), *Experimental approaches to second language acquisition*, pp. 55–72. Oxford: Pergamon Press.

White, L. (1989). *Universal Grammar and second language acquisition*. Amsterdam: John Benjamins.

White, L. (2003a). Fossilization in steady state L2 grammars: Persistent problems with inflectional morphology. *Bilingualism: Language and Cognition*, 6, 129–141.

White, L. (2003b). *Second language acquisition and Universal Grammar*. Cambridge: Cambridge University Press.

Vendler, Z. (1967). Verbs and times. *Philosophical Review*, 56, 143–160.

Appendix. Test sentences in main test

Note: The three continuations offered to the participants after each sentence, which are not repeated here for economy of space, follow the same pattern as the examples given in section 4.2 of the article.

Condition A: objects are mass and bare plurals

Ivan Ivanovič (pri)-gotovil sup.
Ivan Ivanovič PERF-cook-PAST soup
“Ivan Ivanovič cooked/was cooking (the) soup.”

Ira (vy)-pila pivo.
Ira PERF-drink-PAST beer
“Ira was drinking/drank (the) beer.”

Babushka (vy)-myla posudu.
Granny PERF-wash-PAST dishes
“Granny was washing/washed (the) dishes.”

Xudožnik (na)-risoval kartiny
Painter PERF-paint-PAST pictures
s izobražením lošadej.
showing horses
“The painter was painting/painted pictures of horses.”

Condition B: objects are countable and singular

Ja (na)-pisala pis'mo mame.
I PERF-write-PAST letter mother-DAT
“I was writing/wrote a letter to my mom.”

Arhitekt (po)-stroil dom.
architect PERF-build house
“The architect was building/built the house.”

Xudožnik (na)-risoval kartinu.
Painter PERF-paint-PAST picture
“The painter was painting/painted the picture.”

Otec (vy)-čistil kastrjulju.
Father PERF-clean pot
“Daddy was cleaning/cleaned the pot.”

Verkuyl, H. (1972). *On the compositional nature of the aspects*. Dordrecht: Reidel.

Verkuyl, H. (1993). *A theory of aspectuality: The interaction between temporal and atemporal structure*. Cambridge: Cambridge University Press.

Verkuyl, H. (1999). Tense, aspect, and aspectual composition. In M. Dimitrova-Vulchanova & L. Hellan (eds.), *Topics in South Slavic syntax and semantics*, pp. 125–162. Amsterdam: John Benjamins

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Condition C: objects are modified by overt demonstrative or quantifier

Katja (s)-vjazala dva svitera dlja
Katja PERF-knit-PAST two sweaters for
menja.
me
“Katja was knitting/knit two sweaters for me.”

Larisa (vy)-pila svoju kružku
Larisa PERF-drink-PAST her glass
piva.
beer-GEN
“Larisa was drinking/drank her glass of beer.”

Ivan (pri)-gotovil etot boršt.
Ivan PERF-cook-PAST this borsht
“Ivan was cooking/cooked this borsht.”

Valera (pro)-čital etot roman.
Valera PERF-read-PAST this novel
“Valera was reading/read this novel.”

Examples of fillers

Maša pozvonila Miše . . .
“Masha called Misha.”

- A. i zastala ego doma.
“and he was at home.”
- B. no ego ne bylo doma
“but he wasn't at home.”
- C. Oba A i B možno.
“Both A and B above are possible.”

Vera okončila školu s zolotoj medalju . . .
“Vera finished school with a gold medal.”

- A. ona slabaja učenica.
“she is a poor student.”
- B. ona xorošo ucitsja.
“she is an excellent student.”
- C. oba A i B možno.
“Both A and B above are possible.”