

Effect of Perfective Prefixes on Object Interpretation:

A Theoretical and Empirical Issue*

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Abstract: This experimental study brings evidence from second language acquisition (L2A) to bear on a theoretical issue that has been called into question by native speaker judgments: the semantic effect Russian perfective prefixes have on object interpretation. In perfective sentences, article-less bare plural and mass objects are interpreted as denoting a specific quantity. Russian native speakers do not demonstrate sensitivity to this quantificational effect in the absence of context, while advanced and high intermediate learners do. It is proposed that Russian native speakers are aware of discourse-pragmatic word order effects capable of changing object interpretation, while learners rely solely on the grammatically encoded object-event homomorphism.

1. Introduction: Telicity and Perfectivity

Telicity is a universal semantic feature marked in one way or another on all verbal predicates. Telic events have inherent endpoints, or culminations, after which they cannot continue, e.g., *eat an/the cake*, *find a wallet*, *swim ten laps in the pool*. Atelic events do not have inherent endpoints, e.g., *eat cake*, *swim laps in the pool*. The semantic feature [\pm telic],

* I am indebted to all individuals who took the experimental tests on the net. I gratefully acknowledge funding for the study from the Center for Russian, East European, and Eurasian Studies of the University of Iowa International Programs. In particular, I would like to thank Olga Petrova and Yola Kallestinova for native-speaker help with the test, Elena Gavrusseva and Tanya Ionin for insightful discussion, as well as Natasha Voropaeva for setting up the experiment. I am grateful to two anonymous reviewers, whose comments helped me to improve the paper.

together with other features, is taken to mark “lexical aspect” or “situation aspect”, 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 bring forward telic or atelic interpretations of VPs.

Two major mechanisms of “composing” telicity have been identified in the literature (Krifka 1989, 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 forward a telic interpretation as in (1); cumulative objects contribute to an atelic interpretation as in (2) (Verkuyl 1972; Krifka 1998). 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 in 5 minutes.
- (2) Claire ate apples/popcorn for an hour/*in an hour.

However, 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 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 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 1989), 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. 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.¹ We can think of these verbs as inherently, or lexically, (a)telic. We will only be looking at activity and accomplishment predicates with Incremental Theme objects in this experimental study.

The other 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.

¹ 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.

Verbal forms exist in Russian 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, a.o.). 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,d,e).

- (3) a. *pisat'* 'write' b. *na-pisat'* 'write out'
 c. *pod-pisat'* 'sign' d. *do-pisat'* 'write to the end'
 e. *po-pisat'* 'write for a while'

The relationship between telicity and perfectivity, however, is far from straightforward. It is not the case that all imperfective verbs are interpreted as atelic.² Neither is it the case that all perfective verbs are telic (see Borik 2002 for extensive discussion of aspectual tests).³ Thus, strictly speaking, perfectivity cannot be equated with telicity. However, to maintain this broad picture would be to miss an important generalization.

² 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.'

³ For example, the perfective prefixes *po-* and *pre-* 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.'

Careful examination of perfective prefixes reveals that they are not a homogeneous group (Babko-Malaya 1999; Di Sciullo and Slabakova in press; Filip 2001), but can be divided into *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 example the external prefix *po-* ('do something for a while') in (3e) and example (i), footnote 4. It has adverbial properties in the sense that it provides adverbial-like modification to the eventuality 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).⁴ In this experimental work we employ only prefixes that are telicity markers and attach them to simple activity verbs, as in (3b) above.

2. Interaction between perfectivity/telicity and nominal arguments

As demonstrated above, there is a close relationship between verb and

⁴ 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. Smith (1991/97) (see Chapter 10 written with Gilbert Rappaport) and Borik (2002) claim that perfective prefixes encode viewpoint aspect. Brecht (1984), Filip (1993), Piñon (1993), and Verkuyl (1999), however, convincingly argue that Slavic prefixes' contribution to the overall aspectual makeup of the sentence is at the VP (or situation aspect) level. Brecht (1984: 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. 86-87.

Incremental Theme object in marking telicity. It has been proposed that this relationship can be viewed as a **homomorphism** (one-to-one mapping) between parts of the object and parts of the event (Dowty 1991; Krifka 1998). As we saw above, in the event of eating an apple, we can judge the progress of the whole event by looking at the apple. If the apple is half-eaten, the eating-an-apple event is only half complete; if there is nothing left of the apple, the eating-an-apple event is complete. In English, this homomorphism is marked on the Incremental Theme object, since the verbal form does not change: *eat an apple, eat apples*.

In Slavic languages without articles, including Russian, the homomorphism is marked on the verb. The objects are overtly unmarked in this respect. However, objects are dependent for their interpretation on the verbal form. Several aspectologists have noticed this fact. Wierzbicka (1967) suggests that the direct object of perfective verbs in Polish includes two elements in its semantic structure: “the number (one thing, or a set of things) and the quantifier (all, whole). In the object of the imperfective verb neither of these elements are present” (Wierzbicka 1967: 2240). “In a sentence with an imperfective verb the object is treated as an endless ‘continuum’, as a ‘substance without form’” (Wierzbicka 1967: 2237). Forsyth (1970) also considers the object and the verb in an imperfective VP as a “coalesced unit, in which the object has no specific reference” whereas in the perfective VP the object is specific. More recently, Filip (1993, 2001) argues that in Slavic languages without articles, the perfective aspect induces quantized readings on Incremental Theme bare plural and mass arguments.

- (4) ja yel gruši / tort ATELIC
 I eat-PAST/1sg pears-ACC / cake-ACC
 'I was eating (some) pears / cake.'
- (5) ja s-yel gruši / tort TELIC
 I PERF-eat-PAST/1sg pears-ACC / cake-ACC
 'I ate all the pears / the whole cake.'

Let us summarize our theoretical premises so far. We are interested in the way lexical (situation) aspect is calculated compositionally in the default case of activity and accomplishment predicates taking Incremental Theme objects. In both English and Russian, a strict mapping, or a homomorphism, between objects, events, and their parts obtains. The difference lies in the marking: In English this homomorphism is marked on the object by articles and other determiners, in Russian it is marked on the verb by telic prefixes.

3. Learning tasks and research hypotheses

Since marking telicity is a universal property of natural languages, we shall assume that the object-event homomorphism is also a universal property, thus part of the innate language endowment, or Universal Grammar (UG). Whenever the conditions discussed above are met, i.e., the verb designates a non-stative eventuality and the object designates an Incremental Theme argument, all languages have to mark the homomorphism one way or another. If this is the case, the learning task of English native speakers acquiring Russian telicity marking is two-fold. They have to acquire the fact that all prefixed verbs denote telic events; they also have to learn that the object is interpreted as specific/quantized

in perfective sentences and non-specific/non-quantized in imperfective sentences. They will be aided in their acquisition, of course, by the innate object-event homomorphism.

Assuming transfer from the native language (L1 transfer), we expect learners to pay attention to the form of the object initially. However, once learners notice that Russian nouns do not mark definiteness overtly, hence, there is no way to see whether an object is quantized or not, they will know that all prefixed verbal forms denote complete events. We also expect them, at the same time, to know the universal event-object homomorphism, or the effect Russian perfective prefixes have on object interpretation. To my knowledge, no research on the child language acquisition of this homomorphism exists, thus the present study is the first experimental study to investigate these research questions and predictions.

4. The study

4.1 Participants.

Forty-five Russian native speaker (NS) controls (mean age 32.2) and 58 learners of Russian (mean age 23.7) took a battery of tests posted on the internet. In addition, 25 monolingual English NSs (mean age 19.2) took the English variant of the interpretation test (pen-and-paper). The Russian natives had not lived outside of a Russian-speaking country for longer than 5 years (mean 2.3 years).

4.2 Tasks and materials

All the participants answered the preliminary questionnaire and filled in the tests on an entirely voluntary basis. The whole experiment was in Russian and used the Cyrillic script. The proficiency test was a cloze test –

a continuous text, in which 30 single words were deleted and 30 blank spaces inserted in these spots. Participants had to choose which the best word for the blank was, out of the three choices the test provided. Only one answer was appropriate in each case. The example in (6) illustrates the task.

- (6) *Kogda Leto prišlo, Vesna yeščo ne _____ prišla / ušla / uxodila.*
when Summer came Spring yet not _____ came / go / was going
'When Summer came, Spring had not gone yet.'

Next came the Russian Interpretation test. Participants read 50 simple sentences and chose which of the provided three continuations was logically possible, by clicking on a radio button. There were 10 sentences in each condition, in 5 pairs per condition as exemplified below, plus ten fillers. Sentences in each pair differed only in the presence or absence of perfective prefix. Condition A involved objects modified by demonstrative pronouns, e.g., *etot fil'm* 'this film'; Condition B included countable objects in singular and plural, e.g., *dva svitera* 'two sweaters'; Condition C had bare plural or mass (non-countable) noun objects, e.g., *odezhdu* 'clothes'. These conditions seek to verify participants' interpretation of the event: complete or incomplete, as in (7) and (8) below. The examples are from Condition A.

- (7) *Včera večerom ja smotrel etot fil'm...*
yesterday evening I watched this film
 and watched the film to the end
 and did not see it to the end
 both continuations above are possible

absence of perfective prefixes. If the experimental design included, say, a story followed by a sentence to be judged as True or False (as in the Truth Value Judgment Task, Crain & McKee 1985), then the context would determine the object interpretation, and the effect of the prefixes on participants' interpretations could not be investigated.

The third test was an English interpretation test, given only to the monolingual English speakers. It included five quadruples of sentences: past simple or progressive verbal forms were crossed with definite or indefinite objects, for a total of 20 test sentences as in (11) to (14).

(11) *Katherine wrote letters.*

- I don't know how many letters
- I know that it was a specific number of letters
- both continuations above are possible

(12) *George wrote the letters.*

(13) *Misha was writing letters.*

(14) *Sean was writing the letters.*

4.3 Results

4.3.1 Proficiency Test

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 1 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.

Table 1.
Experimental Groups According to the Proficiency Test Scores

| | Natives (n = 45) | Advanced (n = 26) | High Intermediate (n = 20) | Low Intermediate (n = 12) |
|-----------------------|---------------------|----------------------|----------------------------------|---------------------------------|
| 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 NSs | - | $p < .05$ | $p < .0001$ | $p < .0001$ |

4.3.2 Accuracy on Imperfective and Perfective Sentences

The first three conditions manipulated the form of the object and checked participants' interpretation of the event: complete (telic) or incomplete (atelic). The native speakers' very high accuracy validates the reliability of the test instrument and suggests that speakers were alert and consistent in their intuitions. Recall that Russian and English atelic sentences coincide in morphological form: there is no prefix on the verb, and the object is a bare plural or mass noun. Thus, high accuracy only on imperfective sentences is not indicative of any successful grammar restructuring and is due to L1 transfer. Where learners have to demonstrate successful acquisition is on perfective sentences. Indeed, the advanced and even the high intermediate speakers are highly accurate on both perfective and imperfective sentences, which suggests that they have successfully acquired the telicity marking mechanism in Russian. The Low Intermediate learners, however, have not yet acquired the telicity marking mechanism in Russian. This is manifested by their apparent higher

accuracy on imperfective sentences, but at-chance performance on perfective sentences (see Table 2).

Table 2.

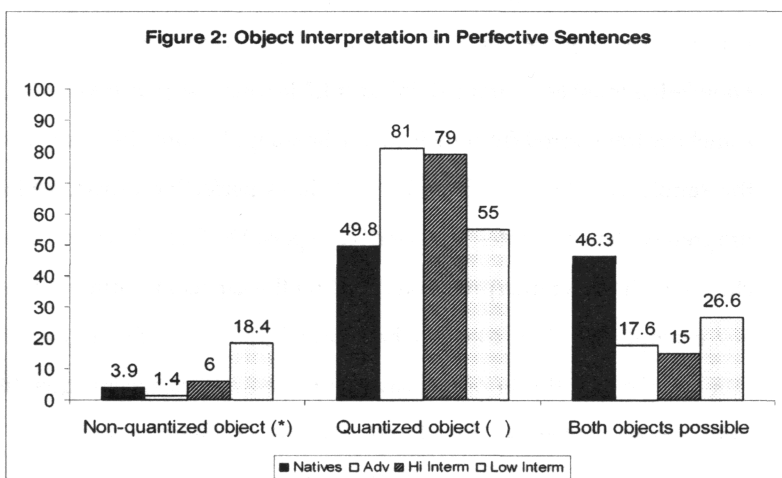
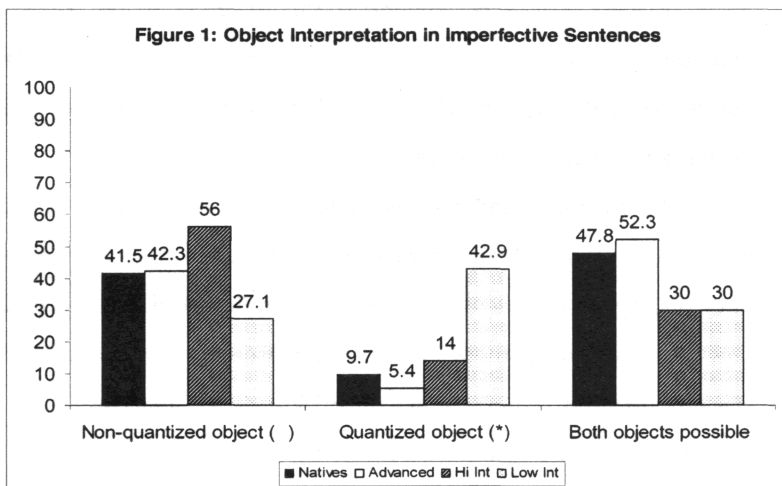
Accuracy on Imperfective and Perfective Event Interpretation

| Group | Imperfective Sentences (%) | | | Perfective Sentences (%) | | |
|---------------------|----------------------------|-----------------|---------------------|--------------------------|-----------------|---------------------|
| | Non-count object | Count object | Demonstr. object | Non-count object | Count object | Demonstr. object |
| Natives (n=45) | 94 | 89 | 94 | 93 | 93 | 86 |
| Advanced (n=26) | 89 | 89 | 93 | 92 | 96 | 89 |
| Hi Interm (n=20) | 85 | 89 | 93 | 85 | 88 | 77 |
| Lo Interm (n=12) | 77 | 70 | 81 | 58 | 54 | 50 |

4.3.3 Object Interpretation in Imperfective and Perfective Sentences

Figures 1 and 2 illustrate the results of the crucial experimental Condition D. Figures 1 and 2 illustrate the results of the crucial experimental Condition D. Recall that in Russian the homomorphism between event parts and the object brings forward a non-quantized (non-specific quantity) object interpretation in imperfective sentences and a quantized (specific quantity) object interpretation in perfective sentences. As discussed above, imperfective sentences can be interpreted as telic or atelic, hence their objects can be interpreted as non-quantized or quantized, depending on context. It is important to notice that neither the native speakers nor the advanced and high intermediate learners go against the prediction of the literature by choosing quantized object interpretations in imperfective sentences (9.7%, 5.4%, 14% of answers, respectively). Their preferences are correctly split between the non-quantized answer and the both interpretations possible answer.

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On the other hand, Figure 2 shows some unexpected judgments of Russian native speakers. They choose non-quantized objects in perfective sentences in only 3.4% of the times. However, they are more inclusive in their object interpretations, with roughly 47% of answers indicating that both object interpretations are possible in *both* perfective and imperfective sentences. They do not significantly demonstrate that they interpret bare

plural or mass objects as denoting specific quantity or not, depending *solely* on the perfectivity of the verb. Thus, the homomorphism between the incremental theme object and the dynamic verb, widely accepted in the literature, is called into question.

The advanced and the high intermediate speakers, on the other hand, show expected high accuracy in their choice of object interpretation. They display superior sensitivity to the quantificational effect of prefixes. Low Intermediate learners have not yet acquired the quantificational effect of prefixes, which is not surprising, given that they have not mastered the telicity-marking mechanism in Russian.

4.3.4 Monolingual English object interpretations

Before answering the above question in the positive, one more source of knowledge must be examined. What if L2 learners' superior knowledge is somehow transferred from their native language? Smith (1991) argues that the simple past tense in English exemplifies perfective aspect, while the progressive tense denotes imperfective aspect. Do English native speakers change their object interpretation based on the aspectual form of the verb? For example, do they consider bare plural and mass objects to refer to non-specific quantity in progressive sentences, and to specific quantity in past simple sentences? Results of the object interpretation test with monolingual native speakers indicate that sentential aspect does not change object interpretation. English monolinguals choose the specific quantity interpretation for the definite object in past simple sentences with 83.2% accuracy, and the non-specific quantity interpretation in a similar sentence when the object is indefinite with 85.1% accuracy. Similarly, in progressive sentences, they choose a specific quantity interpretation for definite objects 88.2% of the time, and interpret an indefinite object as a

non-quantized 80% of the time. This is hardly surprising, of course, since English does have articles to signal specificity and definiteness. As expected, these English speaking participants judged object interpretation based only on the presence of the definite article.

5. Discussion

At least superficially, it looks like the L2 learners (the advanced and high intermediate groups at least) are demonstrating superior ability to manipulate the meaning paraphrases in this particular test as compared to the native speakers. Is it the case that the learners are more *aware* than native speakers of the quantificational effect of perfective prefixes over bare plural and mass objects in Russian? Since learners demonstrate knowledge of the L2 property, but do not transfer it directly from their native language (as the monolingual English test shows), then they must be making use of the strict syntax-semantics mapping in the form of the event-object homomorphism. Crucially, the object's specific quantity reading must be more salient to the L2 learners than to the native speakers, since object quantization is precisely what signals telicity in English.

A possible explanation of these results questions the salience of the homomorphism in Russian. Russian is a language in which discourse and context play a larger role than in English. More concretely, word order in Russian interacts with the specific and definite interpretations of the arguments. Before discussing the relevant facts, we will introduce some informal definitions of specificity and definiteness. Fodor and Sag (1982) argued that indefinites in English are ambiguous between a referential (specific) and a quantificational (non-specific) readings. A specific

indefinite is used when the speaker intends to refer to a unique individual, as in (15). There is no specific individual known to the speaker in (16):

(15) Nancy wants to marry a Canadian. She will present him to her family at Thanksgiving.

(16) Nancy wants to marry a Canadian. Any nice and tall one will do.

Definite NPs, then, are obligatorily specific in their previous mention use, since they are known both to the speaker and the hearer. They presuppose the existence of a unique individual in the contextually relevant domain (Donnellan 1966).

As has been noticed in the literature on Russian, the relatively free word order, or scrambling, gives rise to different discourse information structures. The preverbal position is normally related to topic, or old information, and the postverbal position is related to focus, or new information (see Yokoyama 1986, King 1993, Bailyn 1995 for more discussion). If a bare subject NP is placed preverbally as in (17), it is most often interpreted as definite, while if it is postverbal as in (18), it is interpreted as indefinite, possibly specific. Finally, (19) shows that indefinite non-specific objects also appear postverbally (The examples are from Ionin 2003: 111-112)

(17) Koška v-bežala v komnatu
 cat-NOM PERF-run-PAST into room-ACC
 'The cat ran into the room.'

(18) V komnatu v-bežala koška
 into room-ACC PERF-run-PAST cat-NOM
 'A cat ran into the room.'

- (19) Lena pročla (kakuju-to) knigu. Ja ne znaju, kakuju.
 Lena PERF-read-PAST (some) book-ACC I not know which
 ‘Lena read some book. I don’t know what.’

Now, all 10 sentences testing the object-event homomorphism in this experimental study had SVO word order (see examples (9) and (10)). On the one hand, the mass and bare plural objects were in the scope of a perfective prefix, which would purportedly give rise to a quantized interpretation. On the other hand, the objects were in postverbal position, which would normally lead to an indefinite specific as well as non-specific interpretations, depending on the context. I suggest that it is this clash of two sources of semantic information that makes Russian native speakers accept both quantized and non-quantized object interpretations in perfective sentences.⁵ In other words, word order, information structure and the object-event homomorphism interact in such a way as to make the homomorphism not as salient in Russian as it could be. I will leave as a topic of further research teasing apart the discourse-pragmatic and the syntax-semantic sources of nominal argument interpretation.

If my explanation of the native speaker results is on the right track, the linguistic competence of Russian native speakers would be correctly captured by the results of this test. With their more inclusive choice of object interpretation they are indicating that, if the right pragmatic context exists, the homomorphism may be overruled. This explanation is certainly compatible with recent models of aspectual meaning calculation where

⁵ An anonymous reviewer points out correctly that specificity must not be equated with quantization, giving as an example the English sentence *The sap was oozing out of trees*, where the specific definite subject is itself not delimited. This is true, however, in the case of Incremental Theme objects tested in this experimental study, quantization is a special case of specificity.

pragmatic (context-related) aspectual information can take scope and coerce grammatically-encoded meanings (see de Swart 1998).

The English native learners of Russian, then, are demonstrating the event-object homomorphism in their L2 grammars, and much more categorically than the native speakers. They may not be aware of the coercing effects possible pragmatic contexts and scrambled word order can have over the grammatically encoded object-event homomorphism. In general, it is not unusual to find similar situations in L2A: learners of a language obey some contrast they have noticed more faithfully than native speakers, who are aware of additional (interpretation) possibilities.

Another interesting fact to note about the learners' performance is the following: Advanced and high intermediate learners, who are aware of the telicity marking mechanism in Russian, also demonstrate sensitivity to the homomorphism. Low intermediate learners, on the other hand, are equally unaware of telicity marking and of its quantificational effects. These findings are compatible with our prediction that the telicity-marking mechanism and the quantificational effect over objects will take effect in the interlanguage grammar at the same time, since they are the two sides of the same medal.

In conclusion, sometimes L2 data may be in a position to address and support interpretations that the literature discusses but native speaker judgments do not confirm. One thing is abundantly clear: The quantificational effect of perfective prefixes warrants further investigation with a variety of psycholinguistic means.

References

- Babko-Malaya, O. (1999) *Zero Morphology: A Study of Aspect, Argument Structure, and Case*. Unpublished Ph.D. Dissertation, Rutgers.
- Bailyn, J. (1995) *A configurational approach to Russian "free" word order*. Unpublished PhD thesis, Cornell University.
- Borik, O. (2002) *Aspect and Reference Time*. LOT dissertation, Netherlands Graduate School of Linguistics.
- Brecht, R. (1984) The form and function of aspect in Russian. In Michael Flier and R. Brecht (eds). *Issues in Slavic Morphosyntax*. UCLA Slavic Studies, vol.10: 9-33, Columbus, Ohio: Slavica Publishers.
- Crain, S. and C. McKee (1985) The acquisition of structural restrictions on anaphora. In *Proceedings of NELS 16, GLSA*, University of Massachusetts, MA: Amherst.
- Di Sciullo, A.-M. and R. Slabakova (In Press) 'Quantification and Aspect.' In H. Verkuyl, A. van Hout and H. de Swart (eds), *Perspectives on Aspect* (working title), Dordrecht: Kluwer.
- Donnellan, K. (1966) Reference and definite descriptions. *The Philosophical Review* 75: 281-304.
- Dowty, D. (1972) *Studies in the logic of verb aspect and time reference in English*. Unpublished PhD thesis, University of Texas at Austin.
- Dowty, D. (1991) Thematic proto-Roles and Argument Selection. *Language* 67: 547-619.
- Filip, H. (1993) Aspect, Situation Type and Nominal reference. PhD dissertation, UC Berkeley [Published as 1999, *Aspect, Eventuality Types, and Noun Phrase Semantics*. New York/ London: Garland Publishing].
- Filip, H. (2001) Nominal and Verbal Semantic Structure: Analogies and Interactions. *Language Sciences* 23: 453-501.
- Fodor, J. and I. Sag (1982) Referential and quantificational indefinites. *Linguistics and Philosophy* 5: 355-398.
- Ionin, T. (2003) *Article Semantics in Second Language Acquisition*, unpublished PhD thesis, MIT.
- King, T. H. (1995) *Configuring Topic and Focus in Russian*, CSLI Publications, Stanford, CA.
- Krifka, M. (1989) Nominal Reference, Temporal Constitution, and Quantification in Event Semantics. In J. van Benthem, R. Bartsch, and P. van Embde Boas (eds), *Semantics and Contextual Expressions*, Foris, Dordrecht, 75-115.
- Krifka, M. (1998) The Origins of Telicity. In *Events and Grammar*, Rothstein, Susan (ed), Dordrecht, Netherlands: Kluwer, 197-235.

- Paducheva, E.V. (1990) From the Lexical Meaning of the Verb to Its Aspectual Characteristic (Original title: Vid i leksicheskoe znachenie glagola: Ot leksicheskogo znacheniya glagola k ego aspektual'noy kharakteristike). *Russian Linguistics*, 1990, 14/1: 1-18.
- Piñon, C. (1993) Nominal reference and the imperfective in Polish and English. *Proceedings of NELS*, 383-397.
- Slabakova, R. (2001) *Telicity in the Second Language*. Amsterdam: John Benjamins
- 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 University press.
- Verkuyl, H. (1999) Tense, aspect, and aspectual composition. In *Topics in South Slavic Syntax and Semantics*, ed. M. Dimitrova-Vulchanova and L. Hellan, 125-162. Amsterdam: John Benjamins.
- Yokoyama, O. (1986) *Discourse and Word Order*. Amsterdam: John Benjamins.

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