On the Acquisition of Statives in Child Russian

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Abstract

It has been previously reported that in languages demonstrating the Root Infinitive (RI) Stage the use of RIs is characterized by two properties: these forms are overwhelmingly eventive and have, in the majority of instances, a modal interpretation. Hoekstra and Hyams (1998, 1999) have proposed a theory stating that these two properties of RIs are co-dependent in that the application of the modal reference restriction limits the use of the aspectual verbal classes to eventive predicates. Furthermore, this theory assumed that the described mutual dependency of these constraints was valid cross-linguistically.

In this paper, we investigate the application of this theory to the case of RIs in Russian, one of the languages exhibiting the RI Stage. Using new longitudinal data from two monolingual Russian-speaking children, we demonstrate that the predictions of Hoekstra and Hyams' approach are not realized for Russian child speech. While the constraint requiring that RIs have a modal reference does not seem to apply in Russian since the infinitival forms do receive past and present tense interpretation, these predicates are still overwhelmingly eventive and stative predicates appear mostly as finite verbs. Having shown that a theory connecting the application of the two restrictions on RIs does not account for the Russian data, we examine several alternative analyses of Russian RIs. We arrive at a conclusion that an explanation based on the lack of the event variable in stative predicates (Kratzer 1989) necessary for the interpretation of RIs in discourse (Avrutin 1997) succeeds in handling the Russian data presented in this article.

1   Goals

This paper explores certain semantic properties of root infinitives (RIs) in the speech of children acquiring Russian. In particular, it determines whether the use of RIs in this language is restricted to eventive predicates, similarly to the behavior of these forms in many other languages demonstrating the RI Stage (e.g., Wijnen 1996 for Dutch, Ferdinand 1996 for French, among others.) It further examines whether the explanations existing in the linguistic literature so far can account for the reported distribution. Finally, it (re)introduces an alternative analysis for the apparent asymmetry in the occurrence of the eventive versus stative RIs in Russian child speech.

2   Background

2.1   Root Infinitives

Root Infinitive (also referred to as Optional Infinitive, or OI) Stage is a period when young children between approximately 18 and 30 months of age produce a significant number of matrix clauses with untensed verb forms, so-called RIs, in contexts where this is not allowed by adult grammars (Wexler 1994). Consider the following examples:

(1) a. *Child language*: Mommy sleep.   English
     (Cf. the adult version: *Mommy sleeps.*)

     b. *Child language*: Maman dormir.   French
                mommy sleep-INF
     (Cf. the adult version: *Maman dort.*)

     c. *Child language*: Mama spa**t'**.   Russian
                mommy sleep-INF
     (Cf. the adult version: *Mama spit.*)

The availability of the Root Infinitive (or Optional Infinitive) Stage has been previously reported for many languages including English (Radford 1990), German (Poeppel and Wexler 1993; Becker 1999), Faroese (Jonas 1995), French (Pierce 1989). Russian is one of the languages demonstrating this stage in the linguistic development of their speakers as has been shown by Bar-Shalom, Snyder, and Boro (1996), Stepanov (1998), Brun, Avrutin, and Babyonyshev (1999), and Gagarina (2002) among others.[1] In this paper, we discuss the aspectual nature and the (lack of) modality in the interpreation of RIs in the speech of Russian children.

2.2   Lexical Aspect

It has been previously observed that children passing through the RI Stage limit their infinitival forms to the members of a certain aspectual class, the eventive verbs. In this section, we provide an overview of the analyses of the lexical aspect employed in our paper. The starting point for this discussion may be provided by the well-known Vendler's aspectual taxonomy of verbs (*Aktionsart*: 1957, 1967). As argued by Vendler, all verbs could be classified in terms of their inherent temporal properties and grouped into four basic classes. The following definitions, cited here from Van Valin and LaPolla (1997) are used to distinguish among these groups:

(2) a. *States*: non-dynamic and temporally unbounded predicates, e.g., *be sick, resemble, be tall, be dead, love, know, believe, have.*

     b. *Achievements*: predicates that encode instantaneous changes, usually changes of state but also changes in activities, e.g., *pop, explode, collapse, shatter.*

     c. *Accomplishments*: predicates that encode temporally extended (not instantaneous) changes of state leading to a terminal point, e.g., *melt, freeze, dry (intransitive versions), recover from illness, learn.*

     d. *Activities*: dynamic and temporally unbounded predicates, e.g., *march, walk, roll (intransitive versions), swim, think, rain, read, eat.*

These four classes of verbs can be categorized in terms of three features: [± static], [± telic], and [± punctual]. The feature [± static] distinguishes between the verbs denoting an event

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[1]   The percentage of occurrence of RIs in Russian child speech is comparable to that of the children acquiring other languages with the RI stage. For example, Varvara (CHILDES, MacWhinney and Snow 1985) produces 24.3 % of RIs at 1;7 as reported in Bar-Shalom, Snyder and Boro (1996). Children in Brun et al. (1999) demonstarte the occurrence of 33.2% of infinitival forms at the peak age of 1;8 (the data are averaged for the four children discussed in the paper).

from those which are non-event-denoting. Telicity refers to whether the verb has an inherent end point or not. Finally, the feature [± punctual] distinguishes telic events with internal duration from those which lack such duration. From this classification, the following featural distribution can be derived:

(3)   Featural distribution of verb types

   States   [+ static], [– telic], [– punctual]

   Achievements   [– static], [+ telic], [+ punctual]

   Accomplishments   [– static], [+ telic], [– punctual]

   Activities   [– static], [– telic], [– punctual]

More recently, in their analysis of the aspectual distribution of RIs in child speech, Hoekstra and Hyams (1998, 1999) used the dual class system classifying all predicates as eventive and stative. The same classification was also employed by de Haan (1986), Jordens (1991), among others:

(4)   a. *Stative verbs*: predicates that denote situations that tend to persist in time and lack causal structure, e.g., *being-crazy, know, etc*.

   b. *Eventive verbs*: predicates that denote complex changes that are temporally bounded by their cause-effect relations, e.g., *building a house, running, breaking,* etc.

According to this system, the distinctive feature is [± static] (in Vendler's terms) or [± event] (as formulated by Hoekstra and Hyams). Stative predicates in this theory do not denote an event and are, therefore, limited to Vendler's 'state verbs'. Eventive predicates, in turn, are event-denoting and include activities, achievements and accomplishments.

In this paper, we follow Hoekstra and Hyams among others in distinguishing between the two classes of predicates, stative and eventive. The reason behind this choice is the apparent sensitivity to the difference between these two groups exhibited by young children passing through the Root Infinitive Stage (c.f., Antinucci and Miller 1976, Shirai and Anderson 1995 among others.)

3   Aspectual Classes and Finiteness

In this section, we discuss the fact that in languages with Root Infinitive Stage children limit their production of RIs to the eventive predicates and use stative predicates exclusively with finite forms. We first provide a summary of Hoekstra and Hyams' account of this generalization and then examine the predictions this theory would make for the appearance of non-finite forms in Russian.

3.1   The Constraints on Root Infinitives

As proposed by Hoekstra and Hyams (henceforth, H&H) (1998, 1999), there are two cross-linguistically operational constraints on RIs: The Eventivity Constraint (H&H 1999:241) and the Modal Reference Effect (H&H 1999: 242). According to H&H, the application of these constraints is interdependent. Let us consider each constraint and describe H&H's account of the mechanism of their application.

3.1.1 The Eventivity Constraint

The first constraint we address is the so-called Eventivity Constraint (EC). The effect of this constraint has already been mentioned in this paper. Its rule limits the occurrence of the RIs in child speech to the eventive predicates:

(5)   *The Eventivity Constraint*

RIs are restricted to event denoting predicates.

The relevant data supporting this claim can be found in a number of languages. H&H cite Wijnen's (1996) analysis of Dutch. For four children acquiring Dutch, the author provides the following distribution of eventive vs. stative RIs and in finite verb forms:

Table 1. Distribution of eventive and stative verbs in child Dutch (based on Wijnen 1996)

Type of Verb	RIs		Finite	
Eventive	1790	95%	350	50%
Non-eventive	93	5%	349	50%

As can be seen in Table 1, Dutch children use overwhelmingly more eventive RIs than non-eventive ones: 95% of all RIs are eventive. This pattern does not apply to finite verbs in the speech of Dutch children. The distribution of aspectual classes here is even: exactly half of all finite forms are stative.

In their discussion of the eventivity restriction, H&H mention its application in child Russian based on Van Gelderen and Van der Meulen (1998). They state that 98% of all RIs are eventive for one child (Varvara, CHILDES, MacWhinney and Snow 1985). There is no information on the corresponding data with respect to the finite forms. We provide additional data concerning Russian acqusition later in this paper.

3.2 The Modal Reference Effect

Another property of RIs that has been reported before is that non-finite forms used by children often have some sort of modal interpretation. Throughout the literature on the Root Infinitive Stage, researchers make various observations regarding the presence of modal reference in root infinitives (e.g., Ferdinand 1996, Ingram and Thompson 1996, Wijnen 1996, Stepanov 1999, among others). Based on these observations, H&H formulate the following constraint referred to as the Modal Reference Effect (MRE):

(6)   *The Modal Reference Effect*

With overwhelming frequency, RIs have modal interpretation.

This constraint indicates that, in the majority of instances, RIs express volition, intention, or need. As proposed by H&H, the RIs in child speech cross-linguistically refer to eventualities that are not yet realized (i.e., have irrealis meaning), a restriction achieved through the presence of an inherent aspectual feature [– realized] associated with all infinitives. The authors support their proposal by Wijnen's data on Dutch RIs which show that RIs receive primarily future or modal interpretation:

(7)   Temporal reference of RIs for four Dutch children (adapted from Wijnen 1996):

Present tense interpretation: 10%

Past tense interpretation: 3%

Future/modal interpretation: 86%

The distribution of RIs provided in (7) above suggests that infinitival forms are rarely used by children acquiring Dutch with past or present temporal reference, or with a *realis* interpretation, in H&H's terms. Some examples from Wijnen (1996) discussed in H&H (1999: 243) are presented below:

(8)   a. Eerst kaartje kopen!

    first ticket buy-INF

    'We <u>must</u> first <u>buy</u> a ticket!'

   b. Niekje buiten spleen.

    Niekje outside play-INF

    'Niek <u>wants to play</u> outside.'

   c. Papa ook boot maken.

    Papa also boat make-INF

    'Papa <u>must</u> also <u>build</u> a boat.' or 'I <u>want</u> Papa <u>to</u> also <u>build</u> a boat.'

It is apparent from the translations of the children's utterances in (8a-c) that the interpretation of these predicates is modal, indicating the necessity (8a), desire (8b), or the possibility of both meanings (8c).[2] We shall follow H&H in assuming that the intended interpretation is indeed modal in these three examples in particular and in the majority of Dutch child utterances with RIs in general.

3.2.1   Types of Modality

The next step in the theory put forward by H&H (1998, 1999) is to demonstrate the connection between the two proposed constraints on the use of RIs in child speech, the Modal Reference Effect and the Eventivity Constraint. In order to provide this connection, the authors invoke the distinction between the two types of modality, the epistemic and deontic uses of modals. The distinction has to do with the difference in the interpretation of modals. In particular, epistemic modals have to do with knowledge and belief regarding the possibility of the actions expressed by the modifying predicates, while deontic modals denote obligation and volition with respect to the actions expressed by their predicates. Furthermore, the authors observe that modals are generally ambiguous between epistemic and deontic readings. The following examples illustrate the point:

(9)   a. Mary may leave tomorrow.

   b. <u>Epistemic reading:</u> *It is possible that Mary leaves tomorrow.*

   c. <u>Deontic reading:</u> *Mary is permitted to leave tomorrow.*

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[2] We must note, however, that the interpretation of these sentences, as provided in the source, is rather unsupported. In particular, the examples lack any linguistic, physical, or epistemic context surrounding the utterances which could have indicated the modal interpretation. The glosses by themselves do not require such a reading and may very well have present-tense interpretation in all three cases. While the utterance in (8a) is intonationally marked and, therefore, can receive a modal reading as one of the possible interpretations, there is nothing in the second or third utterance which can be viewed as a modal marker. In addition, as can be seen from the translations of the last example in (8c), no conclusive interpretation can be given. However, the interpreter only provides the two possible modal readings and does not even consider the possibility of non-modal interpretation.

  The problem of contextual support arises very frequently during the interpretation and transcription of child speech (c.f., Becker 1999). While this topic is directly relevant to our research, an extended discussion of the methodological issues relevant to the analysis of child utterances is beyond the scope of this paper.

(10) a. John should be at work.

  b. Epistemic reading: *It is probable that John is at work.*

  c. Deontic reading: *John is obligated to be at work.*

The ambiguity is not caused by the lexical properties of modals but rather is resolved by the properties of the complements with which the modal appears. In particular, the authors claim, following Barbiers (1995), that in order for an ambiguous modal to receive a deontic interpretation, it must be combined with an eventive predicate and for a modal to receive an epistemic interpretation it must be combined with a stative predicate. They use the example of the modal verb *must* showing that, when it is used with an eventive predicate, e.g., 'read a book', it denotes an obligation for the event of reading to take place. When *must* is modified by a stative predicate, e.g., 'be British', it expresses the belief of the speaker with respect to the subject's nationality (adapted from H&H 1999:247)[3]:

(11) a. John must read a book.

  b. John must be British.

Having made the conclusion regarding the association between the aspectual classes and modal interpretations, H&H bring up a relevant result that has been previously reported in the language acquisition literature: epistemic use of modality is not available to children under three years of age (Wells 1979, Stephany 1986, among others). The availability of such data allows the authors to conclude that stative predicates associated with epistemic modality should not be found in non-finite child utterances.

3.3 Interim Summary

Let us recap our discussion of the analysis proposed by H&H (1998, 1999). The authors claim that the two observations that have been widely discussed in the literature devoted to the RI Stage, namely, the lack of stative RIs and the modal interpretation of RIs in child speech are connected. In particular, they argue that the eventivity restriction may be derived from the modal reference requirement in the following way. First, we have to assume that eventive predicates are responsible for the deontic interpretation of modals and stative predicates provide for the epistemic interpretation of modals. Secondly, we invoke the fact that children before the age of three, the relevant age for the RI Stage, have not yet mastered the epistemic use of modality. Hence, only the deontic modal interpretation of RIs should be available to the children during the RI Stage and this modality is restricted to eventive predicates. Such a connection explains the lack of stative RIs in child speech.

In conclusion, the authors claim that the dependence of the eventivity restriction on the modal reference constraint is cross-linguistic. Put differently, if a language has the MRE it should

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[3] Consider, however, another pair of examples involing the same modal *must* and very similar predicates:

  (i) Judging by how smart John is, he must read a lot of books.

  (ii) John must be smart in order to solve this puzzle.

  In the sentences above, *must* expresses the belief, i.e. has the epistemic interpretation, in conjunction with an eventive predicate (i), and means the necessity of a certain property associated with deontic interpretation in conjunction with a stative predicate (ii). In addition, the examples in (9-10) illustrate the same point: the interpretation of the modal does not depend directly on the aspectuality of its complement predicate but on the contextual properties of the entire utterance. Hence, the claim limiting the occurrence of epistemic modals exclusively with stative predicates and the occurrence of deontic modals only with eventive predicates should be weakened. Instead, it should suggest that such a distribution refers to the easier accessible interpretations; however the ambiguity is still present in most cases.

also have the EC, and, consequently, a language that does not exhibit the effects of the modal reference restriction should not limit its RIs to eventive predicates. In what follows, we investigate the application of this theory to RIs in child Russian.

4   Eventivity Constraint and Modal Reference Effect in Russian

4.1   Predictions for Russian RIs

Previous research on the RI stage in Russian has shown that Russian-learning children allow modal ('irrealis') as well as non-modal ('realis') interpretations of RIs (Snyder and Bar-Shalom 1998, Brun, Avrutin, and Babyonyshev 1999, Brun 1999; but see also Gagarina 2002 for a different observation):

(12)   Temporal reference of RIs for four Russian children (adapted from Brun 1999):

        Present tense interpretation: 48.3%

        Past tense interpretation: 26.1%

        Future/modal interpretation: 25.6%

Some typical examples appearing in the transcripts examined in Brun et al (1999) and Brun (1999) are presented below:

(13)   *Present tense interpretation*

Sasha P. (1;9)
Adult (pointing to a TV set with a concert program on):
    Èto   tetya   delaet?
    what woman do-IMP-3RD-SING-PRES
    'What is the woman doing?'
Child: Tetya   pet'
    woman sing-IMP-INF
    'The woman is singing.'

(14)   *Past tense interpretation*

Sasha J. (2;5)
Adult (while pointing to the child's wet clothes):
    Saša, ty   nyryal   v rakovinu?
    Sasha you dive-IMP-3RD-SING-PST in sink
    'Sasha, were you diving into the sink?'
Child: Eto odež ka nyrnut'!
    it   clothes dive-PERF-INF
    'It was the clothes that have dived.'

(15)   Sasha J (2;4)
a. *Present tense interpretation*

 (While describing the actions of his sister who is turning the lights on and off)
 naž imat',   naž imat'
 push-IMP-INF push-IMP-INF
 '(She) is pushing, (she) is pushing.'

b. *Past tense interpretation*

Adult: *Èto papa sdelal?*
   what daddy do-PERF-3RD-SING-PST
   'What has daddy done?'

Child: *naž at'*
   push-PERF-INF
   '(He) has pushed.'

c. *Future/modal interpretation*

(The child is addressing his mother while simultaneously pointing to his shirt)
Rubašku snimat'.
shirt take-off-INF
'I want to take off the shirt.'

These data indicate that RIs in Russian child speech do receive temporal interpretation and are not limited to the predicates marked with [– realized] (i.e., *irrealis*) feature. They are used to refer to the past and present, as well as the future/modal events as may be seen from the examples above. Temporal reference in the *realis* cases is achieved through grammatical aspect: present or ongoing events are expressed by imperfective verbs, while past or completed events are expressed by perfective verbs (Brun et al 1999).[4] Thus, the MRE, which is responsible for limiting the interpretation of RIs to modal readings, can be seen not to apply to Russian RIs and, therefore, the EC is not expected to apply in this language either, at least to the temporally bound forms. We conclude that, since the Eventivity Constraint is predicted not to affect Russian RIs with non-modal interpretation, we should observe both eventive and stative infinitival predicates in the speech of Russian-learning children.

4.2 Materials and Results

Previous research investigating properties of RIs in Russian child speech has been conducted using the production data of one child, Varvara (CHILDES, MacWhinney and Snow 1985, 1990; collected by Protassova). As has been reported by Van Gelderen and Van der Meulen (1998), 98% of all RIs produced by this child were eventive.

In this paper, we present additional data from a new study dealing with the issue of the occurrence of verbal aspectual classes with non-finite forms during the RI Stage. This study

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[4] In a later paper, Hyams proposes that Russian infinitival morpheme *-t'* carries a modal meaning, for both children and adults. The claim regarding the adult Russian is based on De Bode's report (p.c., in Hyams 2001, fn. 22) where she states that adult RIs in Russian are also limited to a modal interpretation. Such a description of Russian RIs is not valid. It has been argued before that adult Russian sentences with RI predicates do not have a modal interpretation (Avrutin 1999). Consider the following example:

(i) Princessa xoxotat'.

 princess laugh-inf

 'The princess started to laugh.'

In this sentence, the predicate refers to an activity of laughing that follows some particular completed event (e.g., somebody telling a joke). The laughing undoubtedly has a property of [+ realized] in Hyams' terms since its occurrence is not being projected but instead is being stated by the speaker. Hence, this interpretation is incompatible with a modal reading which requires the [- realized] feature on the predicate. Thus we conclude that the modality of Russian infinitive is not an inherent lexical feature but is contributed to the interpretation of the predicate when an infinitive is used in a future or modal construction with the copula *byt'* 'to be' or with other modal elements.

investigates the spontaneous speech of two monolingual Russian children collected in 1995 in Moscow, Russia:

(16)   *Subjects*

      a.   Sasha P. (age at the moment of recording: between 1;6 and 2;5)

      b.   Sasha J. (physical age at the moment of recording: between 2;4 and 2;8).[5]

The speech of these children was recorded in sessions of various lengths, between half-hour up to a full hour, with various intervals between the recordings. For this study, we have analyzed a total of seven transcripts for Sasha P. and the total of five transcripts for Sasha J. In these data, we observed the following distribution of RIs with respect to the aspectual classes of stative vs. eventive predicates in non-modal contexts:

Table 2. Distribution of lexical aspect in the speech of two Russian children

Child	Root Infinitives		Finite Verbs	
	Eventive	Stative	Eventive	Stative
Sasha J	44	3	98	26
Sasha P.	85	4	167	41
TOTAL	129 (94.9%)	7 (5.1%)	265 (79.1%)	67 (20.9%)

Let us consider the results summarized in Table 2. Out of the total of 136 non-modal RIs found in the transcripts, the two children in our study only produced 7 stative verbs accounting for the mere 5.1% of all RIs. The picture is quite different for finite verbs: stative predicates occurred in 67 utterances out of the total of 332 finite forms representing 20.9% of all finite verb forms.[6] The proportion of stative verbs in infinitival contexts is significantly lower than the proportion of stative verbs in finite contexts: $\div^2(1) = 16.380$, p 0.001. Below, we present some examples of utterances with RIs with both types of predicates found in our transcripts:

(17)   *Stative RIs (5.1%)*

      a.   Sasha J (2;6)
            (Uttered while pointing to a fish tank)
            Videt'   rybku
            see-IMP-INF fish-DIM-ACC
            'I see a fish.'

      b.   Sasha P. (1;10)
            Košku   lyubit'
            cat-ACC like-IMP-INF
            'I like the cat.'

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[5]   Sasha J. can be considered a late speaker. His physical age in the beginning of recording is 2;4. He demonstrates, however, the linguistic abilities comparable to other children around 1;6. For instance, his MLUword at 2;4 is 2.59 (cf. Varvara's (1;6) MLUw is 2.60 (CHILDES, MacWhinney and Snow 1985, 1990); Zhenya Gvozdev's (1;6) MLUw is 2.64 (Gvozdev 1961.)) The occurrences of RIs disappear from his speech after the session at 2;8, the last session analyzed for the study presented in this paper.

[6]   Note that the number of stative verbs is lower than the number of eventive verbs not only with root infinitives but also with finite verb forms. The same difference in the occurrence of aspectual classes was also documented by Gagarina (2002), among others. Gagarina reports that "the amount of event-denoting predicates is higher not only among OIs, but generally, among all verbs produced by children." (1999: 4). Importantly, however, the proportion of statives in RI contexts is significantly different from the proportion of the statives in finite forms (see text for statistical analysis).

(18) *Eventive RIs (94.9%)*

    a.   Sasha J. (2;4)
          (The child himself is sitting in the stroller while his sister is rocking it.)
          Kaèat'   kolyasoèku.
          rock-IMP-INF stroller-DIM-ACC
          '(She) is rocking a stroller.'

    b.   Sasha P. (2;1)
          (Crying, complains about the cat who has just scratched his hand.)
          Ona   pocarapat'   menya!
          she-NOM scratch-PERF-INF me-ACC
          'She scratched me!'

Based on the data presented above, we may conclude that in non-modal (i.e., the *realis*) contexts the Eventivity Constraint still applies. In other words, when stative predicates are used in the early child speech, they occur within finite verbal forms while root infinitives are used with overwhelming frequency in conjunction with eventive predicates.

4.3   Discussion

Let us review the analysis of the restrictions universally imposed on root infinitives in child speech as proposed by H&H (1998, 1999). Under this theory, the application of the two constraints on the appearance of RIs is mutually dependent. If a language exhibits the Modal Reference Effect, i.e. if the RIs in child speech are restricted to modal interpretation, only the eventive predicates should be used with these infinitival forms. Such a restriction is due to the fact that children only have the deontic use of modality at their disposal at RI age and this modality is associated with the use of eventive predicates. Conversely, if a language does not demonstrate the MRE, i.e. its RIs appear with both modal and non-modal interpretation, the application of the EC should be prevented, at least in the non-modal occurrences of RIs. The application of these constraints is predicted to be universal.

Considering the data reported in this article, Russian presents a serious challenge to this theory. This language does not undergo the restrictions of the MRE since temporal interpretation is possible for its RIs. Hence, the EC should also not apply and both stative and eventive RIs should be observed in the data with at least equal proportional frequency as they are observed in finite utterances.

This prediction is not borne out since the data on Russian indicate that the majority of RIs is eventive in the speech of Russian-speaking children. The proportion of stative verbs in infinitival contexts is significantly lower than the proportion of stative verbs in finite contexts as was statistically demonstrated earlier.

We conclude that H&H's account of the lack of stative RIs in child speech does not account for the Russian data. Some other mechanism should be invoked to explain the asymmetry in the distribution of stative vs. eventive RIs in the speech of Russian children and, possibly, cross-linguistically.

5   Alternative Analyses

As we have demonstrated in the previous section, an analysis where the application of the eventivity restriction on RIs relies on the application of the modal reference restriction does not work for Russian. In this section, we consider three alternative approaches attempting to

provide an explanation for the lack of stative RIs in non-modal contexts in Russian child speech.

5.1 File Change Semantics Analysis

File Change Semantics has been initially developed by Heim (1982) as a model of discourse representation of NPs. It has been later extended by Avrutin (1994, 1999) to account for the discourse representation of events. Under this approach, two types of discourse entities exist in the world: individual file cards and event file cards. Introduction of discourse entities in this model is related to the presence of indices on such syntactic elements as DPs, the event argument and the TP, which in turn is related to the presence of various features. Indices in the syntactic tree correspond to the expression of the presence of certain formal features that mark the referential potential, i.e. the ability to introduce a discourse referent (see Avrutin 1999 for a more detailed discussion.) In particular, presence of an index on T^0 means that it has the referential potential to refer to, or to denote, a time interval.

Let us now turn to the mechanism of interpretation of RIs under the File Change Semantics approach. In this theory, non-finite predicates are represented by event file cards introduced through presupposition, not from syntactic indices. RIs are introduced into discourse as descriptions of events. Let us consider a particular example. Uttering a sentence 'Boy eat apple', a child introduces an event file card as a presupposed discourse entity. Such introduction allows the child to omit T and D specifications because these are needed for introducing corresponding discourse entities from syntax. If the child opts for an alternative way of introducing discourse reference, the specification of these elements may be omitted. Thus, the child's utterance 'Boy eat apple' should be viewed as a description of an event of eating with two participants, *boy* and *apple*, that takes place at some period of time.

According to Avrutin (1999), the proposed procedure of interpreting RIs explains the lack of stative predicates in a non-finite form. When discourse introduction proceeds as described above, the subject of an RI predicate does not bear an index; it does not have its own file card and is "interpreted indirectly as a participant in the event represented by the presupposed file card." Since "the subject of an eventive verb is a more prominent entity (i.e., an animate agent) than the subject of a stative verb (e.g., a theme, animate or inanimate), it is easier accessible in the discourse." (Avrutin 1999:168, based on Ariel 1990).

An explanation based on discourse prominence may run into certain empirical problems. For example, in many occasions, the RIs used by children are unaccusative predicates with non-agent inanimate subjects. An example of such usage is presented below:

(19)   Sasha P. (1;11)
        Mašinka polomat'sya
        car-DIM-NOM brake-PERF-INF
        'The car broke.'

On the other hand, among stative verbs children use most frequently are such predicates as 'to like', 'to know', 'to see'. Usually, the subjects of these predicates are pronouns 'I', 'he/she', nouns like 'Mommy', 'Daddy', etc. Undoubtedly, all these subjects have referents that are highly prominent in discourse and, therefore, they should not be problematic for the children to access as they are the "better accessible individuals" in terms of Avrutin (1999: 151). However, we still do not see a high percentage of constructions involving these stative predicates as RIs. Instead, they occur rather frequently as finite verb forms. Therefore, although this approach may seem attractive as a model of discourse introduction of RIs, it still fails to account properly for the asymmetry in the lexical aspectuality of RIs.

5.2   Event Semantics Analysis

Another approach to the interpretation of RIs in child speech was proposed by Brun et al. (1999). We refer to this account as the Event Semantics Analysis. As discussed by the authors, Russian children employ the system of grammatical aspect to denote Tense in the absence of syntactic means for expressing this feature: in the cases of root infinitives, Tense is unspecified, hence has no index necessary for the appropriate formal temporal interpretation (Avrutin 1999; cf. also Dowty 1979; Enç 1987). Therefore, children rely on alternative, non-syntactic mechanisms of providing temporal specification for the RI predicates. Within the event semantics framework (Parsons 1990), completed events are referred to by perfective verbs while ongoing events are denoted by imperfective verbs. Under this approach, all events are anchored in the 'here and now' situation (Giorgi and Pianesi 1998, Avrutin 1999). Ongoing events achieve this result through their connection with the moment of speech. Completed events, in turn, are linked to the 'here and now' situation (Hyams 1996) by virtue of introducing the right boundary of the event that is "anchored" in the present tense (Enç 1987).

We can now divide the task of accounting for the low rate of stative verbs in root contexts into two parts: past tense reference and present tense reference. Since the completed or past tense events are referred to by Russian children with perfective verb forms, these verbs can only be eventive. In fact, perfective aspect assumes the presence of a right boundary, i.e. the completion of an event. However, stative predicates, by definition, should be unbounded. Thus, only the eventive predicates can be used in such contexts. On the other hand, notice that no such restriction is placed on the ongoing events expressed by imperfective verbs. Hence, the event semantics analysis fails to provide a reason for the low percentage of stative verbs in all non-modal utterances with RIs. While incompatibility of perfective aspect and stative predicates may account for the fact that Russian children do not use stative RIs in past tense contexts, there is still no explanation for the lack of stative RIs in present tense contexts.

5.3   Event Variable Analysis

The final explanation for the asymmetry in production of stative vs. eventive RIs that we would like to discuss was originally proposed by Avrutin (1997). The theory is based on the File Change Semantics (Heim 1982, Avrutin 1994, 1999) approach to RIs which was examined above in details. This analysis is driven by the idea that stative (or Individual Level) predicates do not contribute an event variable (see Kratzer 1989 for discussion). Therefore, stative RIs cannot be represented in the discourse by an Event file card. The sentence with an RI predicate becomes uninterpretable since the only way of interpreting an RI is through a presupposed Event file card.[7]

This simple solution accounts elegantly for the lack of stative RIs in Russian child speech. It does not have to rely on the modal reference characteristic of RIs which seems to be absent in Russian and, therefore, avoids the potential empirical problems.

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[7]   This solution has been dismissed by Avrutin (1999) since it failed to satisfy certain aspects of the modified theory of the introduction of RIs into discourse in adult registers. For adults, the RIs are introduced through the file cards projected by the Resultant State component of the Culminated Events which should precede the introduction of RIs (recall our discussion of Russian adult RI sentences which had to follow some completed event in order to be temporally anchored.) However, we can avoid this problem by adapting the Event Semantics Analysis described in section 5.2 in which the temporal anchoring occurred through the link to the 'here and now' situation.

6   Conclusions

Contrary to previously proposed theories under which the applicability of the eventivity restriction on RIs in child speech depended universally on the modal reference restriction (Hoekstra and Hyams 1998, 1999), these two constraints are independent.

In particular, the Modal Reference Effect does not apply in Russian child speech since both the *realis* and *irrealis* uses of RIs occur in this language. Nevertheless, Russian still exhibits the effects of the Eventivity Constraint since RIs in this language are overwhelmingly eventive. Hence, a theory connecting the application of the MRE and the EC does not predict Russian facts and should be reconsidered.

The theory that provides the best explanation for the Russian data is based on the event variable association with the eventive predicates and its role in the interpretation of RIs. It avoids referring to the Modal Reference Effect absent in Russian and may be applied to other languages without jeopardizing the empirical facts.

Finally, another important question raised in connection with this topic was concerned with such methodological issues as the interpretation of spontaneous speech with respect to the child-intended interpretation. While a detailed discussion of this problem is definitely beyond the scope of this article, it is worth pointing out that contexts are crucial in determining the appropriate reading and should be paid attention both during data analysis and, importantly, in the discussion of results.

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