ASPECT IN ENGLISH AND RUSSIAN FLASHBACK DISCOURSES

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ABSTRACT

An important issue that often comes up in research on Russian aspect concerns the puzzling choice of the imperfective versus the perfective aspect in cases where both seem to be possible and seem to have similar meanings. This paper investigates flashback discourses, which often exemplify such cases and reveal some criteria for how the choice is made. I provide an analysis of the two aspects in Russian based on these criteria, as well as a comparison of the two aspects to the English perfect and progressive.

[1] INTRODUCTION

A central puzzle in the research on Russian aspect concerns the following question: What dictates the choice of imperfective versus perfective aspect in cases where both seem to be possible and seem to have similar meanings? For example, consider (1) and (2) from [Rassudova \(1968\)](#), which contain the imperfective and perfective respectively. Both examples entail that the father successfully arrived, but stayed for only a brief time. Although some native speakers claim that there is a difference between (1) and (2), it is extremely difficult to state what that difference is. So much so, that a translation of these sentences leaves out whatever difference there may be (cf. [Paducheva 1992](#)).

- (1) K nam *priežža-l* otec, no vskore u-exa-l.
To us arrive.IPF-PST.3S father but in.a.rush PFV-go-PST.3S
'Father came/had come to see us, but he went away again soon.'
- (2) K nam *priexa-l* otec, no vskore u-exa-l.
To us PFV.arrive-PST.3S father but in.a.rush PFV-go-PST.3S
'Father had came/came to see us, but he went away again soon.'

The usage of the imperfective aspect in (1) is often called *konstatacija fakta*.¹

[1] *Konstatacija fakta* is translated as 'statement of fact' ([Brecht 1985](#); [Smith 1994](#)); cf. the term *constative* in [Comrie \(1976\)](#), *simple denotation* in [Forsyth \(1970\)](#), *obščefaktičeskoe* in [Bondarko & Bulanin \(1967\)](#) and 'general-factual' in [Rassudova \(1984\)](#), [Maslov \(1985\)](#) and [Dickey \(1995, 2000\)](#). The study of *konstatacija fakta* goes back to at least [Mazon \(1914\)](#).

Although *konstatacija fakta* is sometimes divided into various types (Glovinskaja 1982; Chaput 1990; Grønn 2003), it is often defined as “the use of the impv aspect... which refers to a single, completed action” (Glovinskaja (1989), cited in (Dickey 2000, 96)).

Konstatacija fakta is puzzling since ‘completion’ is typically associated with the perfective aspect in other (non-Slavic) languages and not the imperfective, which like the English progressive is typically associated with ‘non-completion’ or ‘ongoingness’ (Comrie 1976). In fact, based on imperfective sentences such as (3) and (4), which provide a stark contrast to the imperfective sentence in (1), oft-cited sources such as the Russian *Academy Grammar* (1960) have incorrectly claimed that the semantic function of the imperfective aspect is to indicate that “the action expressed by the verb is presented in its course, in process of its performance” (*Academy Grammar* 1960, pp. 424, cited and translated in (Forsyth 1970, 3); see also, e.g. Zucchi (1999), where the Russian imperfective is incorrectly treated like the English progressive).

- (3) *Smerka-l-os’*, *kogda brosi-l-i* *kosit’*.
 Darken.IPF-PST-RFL when PFV.stop-PST.3P mow.IPF.INF
 ‘It was getting dark when they stopped mowing’
 (Sholoxov, Tixij Don; cited in (Forsyth 1970, 66).
- (4) *Probravšis’ skvoz’ gustejuščuju tolpu, on voše-l* *vo*
 Having.gone through dense crowd he PFV.come-PST.3S into
dvor, gde stroi-l-i dom.
 courtyard where build-PST-3P house
 ‘Having gone through the dense crowd, he entered a courtyard where a house was being built’ (Karrer, Usy).

To better understand *konstatacija fakta*, some researchers have investigated the behavior of the Russian imperfective in question/answer pairs (Rassudova (1982), Glovinskaja (1982), Chaput (1990), Israeli (1996), Mehlig (2001), among others) and in narrative context (Hopper (1979, 1982), Chvany (1985), the collection of papers in Thelin (1990), Grønn (2003), among others). While many interesting and insightful generalizations have been made — some discussed in the next section — a sufficient meaning for the Russian imperfective has not been proposed because *konstatacija fakta* has led researchers astray.

To begin with, *konstatacija fakta* is defined based on an event’s ‘completion’, a notion that means different things in different examples (cf. *celostnost’* ‘entirety’ in Bondarko & Bulanin (1967) and ‘totality’ in Forsyth (1970)). For example, consider the oft-cited example from Tolstoy’s *Tri medvedja* below in (5). Here, the imperfective predicate *xlebal iz moej čaški* (‘supped from my bowl’) is said to exemplify *konstatacija fakta* because the event of supping from the bear’s bowl is

understood to be ‘completed.’ But what do we mean by ‘completed’? ‘Completed’ cannot mean the same thing in (5) as it does in (1), where ‘completed’ means that the event reached its *telos* — i.e. the father successfully entered the place where the speaker was situated.

- (5) Bol’šoj medved’ vzja-l svoju čašku, vzgljanu-l i
 Big bear PFV.take-PST.3S his bowl PFV.look-PST.3s and
 zareve-l strašnym golosom: —kto xleba-l iz moej čaški?
 PFV.roar-PST.3S terrible voice who eat.IPF-PST.3S from my bowl
 ‘The big bear took his bowl, looked inside and roared in a terrible voice:
 “Who supped from my bowl?”’ (Chvany 1985, 260)

In (5) — where *xlebal iz moej čaški* (‘supped from my bowl’) is not telic — ‘completed’ must mean something like a *supping from a bowl took place and then it stopped* (cf. the term ‘bounded’). But if that is right, then saying (5) exemplifies *konstacija fakta* is not very informative since past events in general can be characterized in this way, regardless of the aspect used.

Perhaps the main reason that *konstacija fakta* has lead researchers astray is that it does not distinguish cases in which a ‘completion’ inference is defeasible or constitutes an entailment (cf. Grønn 2003). For example, the imperfective in (1) leads to the entailment that the described event was ‘completed’ — i.e. (1) is false if the father did not successfully enter the place where the speaker was situated. For this reason, (6) is infelicitous.

- (6) #K nam priezža-l otec, no on ne smog najti naš dom.
 To us arrive.IPF-PST.3S father but he not able find our house
 ‘Father came/had come to see us, but was unable to found our house.’

Things are less clear, however, in sentences like (7). According to Leinonen (1982), (7) exemplifies *konstacija fakta* because the speaker is understood to have read *The Fortress* completely. Crucially, however, Leinonen further claims that this interpretation is contingent on there not being a disclaimer of the finishing in an appended remark.

- (7) Ja uže odnaždy čita-l Krepost’.
 I already once read.IPF-PST.3S Fortress
 ‘I have already read The Fortress once.’ (Leinonen 1982, 187).

What Leinonen has in mind is that follow-ups to (7), viz. in (8) and (9), are felicitous. This, in turn, shows that the ‘completion’ inference in (7) is defeasible and therefore does not constitute an entailment².

[2] The claim that *konstacija fakta* constitutes a defeasible inference was also made by Durst-Andersen (1992) and Paducheva (2006); see Paducheva (1996) and Glovinskaja (1989), where such a claim is implied.

- (8) Xotja on ne *do-čita-l* do konca.
Even.though he not PF-read-PST.3S until end
'Even though he did not finish it.'
- (9) Xotja on *pro-čita-l* tol'ko neskol'ko stranic.
Even.though he PFV-read-PST.3S only few pages
'Even though he read only a few pages.'

If that is right, then the felicity of the follow-ups above also suggests that the English translation of (7) – which entails that the speaker read the novel in its entirety – is incorrect (or misleading). For this reason, I will – from here on out – translate sentences such as (7) as in (10), which contains a parenthetical *at least some of*.

- (10) Ja uže odnaždy *čita-l* Krepost'.
I already once read.IPF-PST.3S Fortress
'I have already read (at least some of) The Fortress once.'

A possible objection to using (8) and (9) to show that (7) does not have a 'completion' entailment is that these follow-ups could force an interpretation of the imperfective that is distinct from *konstatacija fakta* (see Grønn (2003) for an objection along these lines).³ For example, it is certainly possible that (8) and (9) trigger an interpretation of (7) that is translatable with the English progressive:

- (11) I was already reading The Fortress once.

Note, however, that the imperfective sentence in (12-b) is also an instance of *konstatacija fakta* that can be felicitously followed-up by (8) and (9). And as illustrated by the infelicity of (13-b) below, which is a continuation of (13-a), we could not say that (8) and (9) force an interpretation of (12-b) that is translatable with the English progressive.

- (12) a. Dudkin zna-et, kto takaja Nataša Rostova,
Dudkin know.IPF-NPST.3S who this Natasha Rostova
'Dudkin knows who Natasha Rostova is,
b. on *čita-l* 'Vojnu i mir' v prošlom godu.
he read.IPF-PST.3S 'War and Peace' in last year
'he read War and Peace last year'.
- (13) a. Dudkin knows who Natasha Rostova is,
b. #he was reading War and Peace last year.

[3] Thanks to an anonymous reviewer for pointing this out.

The strongest evidence for the view that the ‘completion’ inference is defeasible in examples like (7) comes from considering the imperfective in the scope of negation, viz. (14).

- (14) Ja ne čita-l Krepost’.
I not read.IPF-PST.3S Fortress
‘I haven’t read (any of) The Fortress.’

If the affirmative counterpart of (14) were to entail the completion of the reading event, then we would expect that (14) would have the interpretation in (15) below, where negation of the perfective sentence results in the denial of the completion. However, as pointed out by Forsyth (1970), negation of the imperfective leads to the denial of the entire event.⁴

- (15) Ja ne pro-čita-l Krepost’.
I not PFV-read-PST.3S Fortress
‘I haven’t read (all of) *The Fortress*.’

In sum, konstatacija fakta characterizes some key intuitions about the Russian imperfective that an analysis must account for. However, it is defined based on the unstable and often uninformative notion of ‘completion’ cf. (Klein 1994, 28) and it does not distinguish cases in which a ‘completion’ inference is an entailment or an implicature. This, in turn, has lead researchers to treat the imperfective as an unmarked member of an opposition with the perfective — the imperfective is thought to “posses no positive semantic mark which it would express constantly” (Bondarko (1971), cited from (Rassudova 1984, 14)). An important consequence of such an analysis is that “positive aspectuality is expressed in perfective verb forms” and therefore “the imperfective is in a sense ‘non-aspectual’, i.e. the meaning of a perfective form includes as one of its elements the expression of aspect, while an imperfective form carries no such element of meaning” (Forsyth 1970, 14). This has lead to the “widespread idea that aspect in Russian, and factual imperfective [=konstatacija fakta] in particular, does not lend itself to a semantic, truth conditional analysis” (Smith 1994, 8). A similar skepticism is not only recurrent in Slavic linguistics, where “truth-conditional semantics has never been fashionable” (Grønn 2003, 111), but it also expressed by semanticists who subscribe to a truth conditional analysis of aspect. For example, Paslawska & von Stechow (2003) write: “it is hopeless to find a few factors as triggers for the imperfective. Even if we could enumerate all the factors that trigger the imperfective, there seems to be no structural functional category that could somehow be linked with an imperfective feature in AspP... we follow the line indicated by

[4] The observed facts about negation extend to other non-veridical, truth-functional operators e.g. *otkazat’sja* (‘refuse’) and *bojat’sja* (‘be afraid’). See Altshuler (2010) for more discussion.

Jakobson and Forsyth: there is no such thing as the meaning of the imperfective; this ‘aspect’ is really a non-aspect” (Paslawska & von Stechow 2003, 336).

The goal of this paper is to provide a ‘positive’, truth-conditional meaning for the Russian imperfective that explains — in a straightforward way — why this aspect is similar to the perfective in some contexts but not others. To do so, I will focus on cases in which a verb phrase (VP) is inherently TELIC — i.e. where a VP describes an event’s TELOS — and it therefore makes sense to say whether a sentence ENTAILS OR IMPLICATES that a described event CULMINATED — i.e. when an event reaches its TELOS (Parsons 1990). The core data comes from flashback discourses, which often involve retrospection of culminated events and their consequences. Moreover, they describe events that are temporally located relative to multiple coordinates giving the effect of “a plot within a plot” (Chvany 1990). And as will be clear in the next section, these complex temporal relations are helpful in seeing the difference between the perfective and the imperfective aspect, even in cases where they seem to have similar meanings. Besides the culmination properties of the two aspects, the differences that I will be concerned with in this paper deal with:

- (i) discourse connectivity to prior discourse
- (ii) discourse connectivity to subsequent discourse
- (iii) result vs. experiential perfect interpretation

A key motivation for the proposed analysis will be a comparison of the imperfective and perfective to the perfect and progressive in English.

[2] ASPECT IN FLASHBACK DISCOURSES

Consider the flashback discourses in (16) and (17), which are identical except that (16-b) and (16-c) constitute a series of perfective sentences, while (17-b) and (17-c) constitute a series of imperfective sentences. Just like (1) and (2) in the previous section, both flashback discourses entail that the described event culminated, i.e. they are false if one or more of the following conditions are not met: (i) Dudkin was kissed by Maria, (ii) Maria received flowers from Dudkin and (iii) Maria was invited to the theater by Dudkin.

- (16) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’
 b. Za nedelju do togo on *po-dari-l* ej cvety
 From week to that he PFV-give-PST.3S her flowers
 ‘A week before that he had given her flowers’

- c. i *priglasil* ee v teatr.
and PFV-invite-PST.3S her to theater
and (then) had invited her to the theater.’
- (17) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
‘A week ago, Maria kissed Dudkin.’
- b. Za nedelju do toga on *dari-l* ej cvety
From week to that he give.IPF-PST.3S her flowers
‘A week before that he had given her flowers’
- c. i *priglaša-l* ee v teatr.
and invite.IPF-PST.3S her to theater
and had invited her to the theater.’

One difference between these flashbacks concerns how the flower giving event comes to be understood as preceding the kissing event. In (16), this is determined by the adverbial expression *za nedelju do toga* (‘a week before that’). We know this to be the case because without this adverb, the understood event ordering would be reversed: the flower giving would be understood to follow the kissing. In (17), however, *za nedelju do toga* (‘a week before that’) merely facilitates the interpretation in which the flower giving event precedes the kissing event. We know this to be the case because without this adverb, the understood event ordering would remain unaltered.

A second difference between these discourses is anaphora potential: the perfective clauses in (16-b) and (16-c) form a narrative progression, but the imperfective clauses in (17-b) and (17-c) do not (cf. Hopper (1982)). That is, the theater inviting is understood to follow the flower giving in (16-b) and (16-c), but in (17-b) and (17-c), there is no order that these events are understood to have occurred in. This illustrates the value of looking at extended flashbacks — i.e. simply looking at (16-a), (16-b), (17-a) and (17-b) would not reveal the difference in anaphora potential.⁵

A third and final difference between these discourses can be summarized as follows: the consequence of the flower giving and the theater inviting in (16-b) and (16-c) is understood to be more ‘significant’ at the time of the kissing than in (17-b) and (17-c). For example, in (16-c), the invitation is understood to be open at the time of kissing event, but not in (17-c). This illustrates another value of looking at flashback discourses, which often involve retrospection of culminated events and their consequences.

[5] To the best of my knowledge, Chvany (1985, 1990) was the first to discuss Russian aspect in flashback discourses. See also Kamp & Rohrer (1983) for a discussion of flashback discourses in French, and Kamp & Reyle (1993) and Parsons (2000) for English.

In sum, the flashback discourse in (16) suggests that the Russian past perfective is a hybrid between the English ‘simple past’ and the English ‘result perfect.’ It is similar to the English ‘simple past’ in that it triggers a narrative progression, cf. (18) below, and needs ‘help’ from, e.g. an adverbial expression, to locate the described event *PRIOR* to a salient event previously mentioned in the discourse; without this help, it locates the described event *AFTER* a salient discourse event, cf. (19) and (20) below. The Russian perfective is similar to the English ‘result perfect’ in requiring an event’s consequence to hold and be ‘especially significant’ at some salient time interval (cf. (Hulanicki 1973); see also (Mittwoch 2008)); cf. (21) below, which “is only in order as long as there is spilled coffee around” (Higginbotham 2008).

- (18) Dudkin gave Maria flowers and invited her to the theater.
- (19) A week ago, Maria kissed Dudkin. A week before that he gave her flowers.
- (20) A week ago, Maria kissed Dudkin. He gave her flowers.
- (21) I have spilled my coffee!

On the other hand, the flashback discourse in (17) suggests that the Russian imperfective is like the English ‘experiential perfect’ in not triggering a narrative progression, cf. (22), and not needing ‘help’ from an adverb to locate a described event *PRIOR* to some other salient discourse event, cf. (23) and (24). Moreover, the imperfective requires an event’s consequence to hold but not ‘be especially significant’ at a salient time interval (cf. Hulanicki (1973); see also Mittwoch (2008)); cf. (22) below, where the meaning “is, as it were, ‘been there, done that’ ” (Higginbotham 2008).

- (22) I have been to Pushkin and I have been to Pavlovsk.
- (23) A week ago, Maria kissed Dudkin. A week before that he had given her flowers.
- (24) A week ago, Maria kissed Dudkin. He had given her flowers.

It is important to note that the differences between the perfective and the imperfective described above are especially salient when culmination properties of the perfective and the imperfective appear to be the same — e.g. in (16) and (17), which entail that the described events have culminated. However, as is well-documented, the perfective and the imperfective are often distinguished by their ‘culmination’ properties. Compare, for example, the discourses below, in (25)–(27):

- (25) a. Dudkin za-še-l v zamok.
Dudkin PFV-go-PST.3S into castle

- ‘Dudkin entered the castle.’
- b. Nedlju nazad on *pro-čita-l* brošjuru ob ètom zamke.
 Week ago he PFV-read-PST.3S brochure about this castle
 ‘A week ago, he had read a brochure about this castle.’
- (26) a. Dudkin za-še-l v zamok.
 Dudkin PFV-go-PST.3S into castle
 ‘Dudkin entered the castle.’
- b. Nedlju nazad on *čita-l* brošjuru ob ètom zamke.
 Week ago he read.IPF-PST.3S brochure about this castle
 ‘A week ago, he had read (at least some of) a brochure about this castle.’
- (27) a. Ja za-še-l v svoju komnatu.
 I PFV-go-PST.1S in self room
 ‘I came into my room.’
- b. Dudkin tam *čita-l* brošjuru.
 Dudkin there read.IPF-PST.3S brochure
 ‘Dudkin was there reading a brochure.’

While we infer in (25) and (26) that Dudkin read the brochure completely, this inference is defeasible in the latter example, but constitutes an entailment in the former. On the other hand, no such inference is found in (27), which describes a reading event that was ‘ongoing’ when the speaker came into his room.

The data above presents the following puzzle: unlike other aspectual markers, the Russian imperfective leads to an entailment that a described event culminated only in certain cases. That is, it seems to function like the English perfect in certain cases, but like the English progressive in others. In what follows, I propose a single meaning of the Russian imperfective, which not only accounts for its quirky culmination property, but also for its afformentioned differences with the Russian perfective, summarized below.

- (28) DISCOURSE CONNECTIVITY TO PRIOR DISCOURSE⁶
 The Russian perfective leads to an entailment that the described event FOLLOWS a salient event previously mentioned in the discourse; the Russian imperfective leads to an entailment that the described event DOES NOT FOLLOW a salient event previously mentioned in the discourse.
- (29) DISCOURSE CONNECTIVITY TO SUBSEQUENT DISCOURSE
 While the Russian perfective triggers narrative progression, the Russian

[6] As pointed out by an anonymous reviewer it seems possible to construct counterexamples to this generalization concerning the imperfective. Note, however, that the notion of ‘salience’ is purposely vague in this generalization and is meant to rule out cases in which the imperfective is not used in narrative discourses of the type considered here.

imperfective does not.

(30) ‘PERFECT’ INTERPRETATION

In certain contexts, the Russian perfective leads to a ‘result perfect’ interpretation while the Russian imperfective leads to an ‘existential perfect’ interpretation.

In section [4.1], I propose to relate the quirky culmination properties of the Russian imperfective to atomicity. The proposal is based on the observation that flashback discourses in (16)–(17) crucially differ from (25)–(27) in whether the base verb phrase (VP) denotes atomic events: While the base VPs in (16)–(17) denote atomic events (i.e. a kissing, a flower giving and a theater inviting), the base VPs in (25)–(27) do not (i.e. a brochure reading).⁷ I propose the generalization in (31)⁸ below and show how the culmination entailment is expected when the imperfective combines with VPs that denote atomic events because in such a case the only event that could make an imperfective sentence true is the (entire) VP-event. On the other hand, the culmination entailment does not arise when IPF combines with VPs that denote nonatomic events because such events have multiple parts by definition and any one of these parts makes an imperfective sentence true.

(31) ‘CULMINATION’ ENTAILMENT HYPOTHESIS

The Russian imperfective gives rise to an entailment that a described event culminated only when the imperfective combines with a VP that describes an atomic event.

In section [4.2], I extend the meaning of the imperfective to account for the generalizations about this aspect in (28) and (29). These generalizations are intimately related to how aspect constrains the temporal location of a VP-event. The standard view is to say that aspect locates an eventuality relative to a single parameter: a TIME that can be specified by a grammatical expression (e.g. an adverb) or the discourse context (cf. Reichenbach’s (1947) *reference time* or Klein’s (1994) *topic time*). However, based on data involving the Russian imperfective, I argue for what I call a *birelational analysis* in which the meaning of the Russian imperfective involves both temporal information and information about discourse connectivity (cf. Kamp & Reyle (1993), Nelken & Francez (1997)).

[7] As pointed out by an anonymous reviewer, *priglašal v teatr* (‘invited to the theater’) belongs to those verbs which are characterized by Maslov (2004) as “glagoly neposredstvennogo, nepreryvnogo éffekta” (Maslov 2004, 86). Maslov’s idea is that such verbs have an ‘instantaneous effect’, even though they have flexible temporal constituencies (cf. Apresjan (1995) and Israeli (2001)). This, in turn, raises the question of whether *priglašal v teatr* (‘invited to the theater’) is, in fact, atomic. For the purposes of this paper, I assume that although a theater inviting may not be an instantaneous event, its ‘instantaneous effect’ is enough reason to think that the grammar treats it as atomic.

[8] According to Grønn (2008), Hobæk-Haff (2005) makes a similar claim w.r.t. *l’imparfait narratif* in French.

The proposed analysis raises several questions. Chief among them is whether the Russian perfective is also birelational. This issue is addressed in section [5], which proposes a ‘yes’ answer based on the generalization in (30) above: in order to account for the result perfect interpretation often found with the perfective, one needs to assume that the perfective requires (i) temporal information about the time at which an event *e* occurred and (ii) information about a previously mentioned discourse eventuality that the consequence of *e* overlaps (cf. Grønn (2003)). In turn, I discuss how these requirements could explain (i) why the result perfect interpretation is found with the perfective in some contexts, but not others and (ii) how the meaning of the perfective aspect leads to the so-called ANNULLED result implicature with the imperfective.

In the next section, I briefly outline some assumptions about event structure and narrative progression that is assumed in the proposed analysis.

[3] BACKGROUND ASSUMPTIONS

[3.1] *Event structure*

Following Moens & Steedman (1988), I assume that events have the tripartite structure shown in Figure 1. The culmination point of an event is its telos. A preparatory process (viz. I in Figure 1) consists of a series of preparations leading to a culmination, which in turn leads to an event’s consequence or a consequent state (cf. the term ‘result state’ in Dowty (1979)).

FIGURE 1: Moens & Steedman’s (1988) tripartite event structure

Aspectual markers provide evidence for a particular event structure. For example, the English progressive combines with a VP and makes reference to the preparatory process of the VP-event, thereby implying ‘non-culmination’ or ‘ongoingness’. The English perfect, on the other hand, makes reference to the consequent state of a VP-event and thereby implies a ‘consequence’ arising from an event’s culmination. For this reason we understand the letter writing event to be ongoing in (32-a), but in (32-b), the consequence of the letter writing event is what’s at issue.

- (32) a. Abelard is now writing a letter to Heloise’s uncle, the Canon.
 b. Abelard has now written a letter to Heloise’s uncle, the Canon.

While the event structure in Figure 1 can adequately account for the culmination

properties of the English progressive and the English perfect, the same cannot be said about the Russian imperfective: depending on whether the base VP describes an atomic event, it can behave like the progressive or the perfect (viz. the discussion in the previous section). In section [4.1], I show that we can make sense of its quirky behavior if we assume following (Moens & Steedman 1988, 18) that “Any or all of [parts of an event] may be compound: for example, the preparation leading to the culmination of *reaching the top of Mt. Everest* may consist of a number of discrete steps of climbing, resting, having lunch, or whatever...”. With regard to the compound structure of a preparatory process *e* – which will play a crucial role in the analysis – I shall refer to its ‘discrete steps’ as *stages* when they are “big enough and share enough with *e* so that we can call it a less developed version of *e*” ((Landman 1992, 23); see also Landman (2008)). This is illustrated in Figure 2, where the preparatory process consists in a series of stages and their consequent states.⁹

FIGURE 2: Fine-grained preparatory process

In order to better understand Figure 2, suppose we are considering an event of cleaning one’s room. The preparatory process of this event can be broken down into e.g. two stages: a stage of taking a stain out of the carpet and a stage of taking out the trash. Each of these stages can in turn be broken down into e.g. two stages: the stage of taking a stain out of the carpet can be broken down into a stage of spraying the carpet and a stage of rinsing the carpet with water; a stage of taking out the trash can be broken down into a stage of taking the trash bag from the trash can and a stage of dumping the trash into the trash bin. And so on, until we reach a point at which a stage that cannot be further broken down – e.g. winking would not constitute a stage of an event of cleaning one’s room because it would be odd to say that such events would ‘develop’ into an event that culminates when a room is clean.

Based on the event structure in Figure 2, I propose to relate the quirky cul-

[9] Note that the precise number and quality of the stages is not (typically) encoded in the lexicon and is determined by the context (cf. Dowty (1979)).

mination properties of the Russian imperfective in section [4.1] as follows. The culmination entailment is expected when the imperfective combines with VPs that denote atomic events because in such a case the only event that could make an imperfective sentence true is the (entire) VP-event. On the other hand, the culmination entailment does not arise when the imperfective combines with VPs that denote non-atomic events because such events have multiple stages and any one of these stages makes an imperfective sentence true.

[3.2] *Narrative progression*

It is generally held that temporal anaphora depends in part on the aspectual distinction between events and states (Kamp (1979), Hinrichs (1986), Partee (1984), Kamp & Rohrer (1983)). For example, consider the discourse below in (33), modeled after Partee's (1984) famous example. Here, the times of the described events (i.e. John's getting up, raising the blind and pulling the blind down) correlate with the order of appearance, i.e. a NARRATIVE PROGRESSION is invoked. On the other hand, the state described in (33) (i.e. being light out) holds throughout the described events, i.e. a NARRATIVE HALT is invoked.

- (33) John got up at 8 and raised the blind. It was light out. He pulled the blind down.

Narrative discourses like (33) motivate a notion of a reference time — i.e. a placeholder for where the narrative has developed. According to one influential analysis proposed by Webber (1988), a reference time could be either the time described by temporal location adverbials or the duration of the consequent state of a previously mentioned discourse event (cf. Partee's (1984) "time right after"). Moreover, following Partee (1984) and others, Webber proposed that aspect constrains the temporal location of an eventuality described by a VP in the following way: Whereas events occur within a reference time, states hold throughout that time.

Such an analysis accounts for the inferred temporal ordering in (33) as follows (see Figure 3 on the following page). The event of John getting up is located within the time denoted by *at 8*, which serves as the reference time. Subsequently, the event of John raising the blind is located within the duration of the consequent state of John getting up, which serves as the new reference time. This correctly predicts that John raised the blind AFTER he got up. With regard to the state described in (33), i.e. being light out, it holds throughout (rather than within) the reference time, namely the duration of the consequent state of John raising the blind. This correctly predicts that it was light out when John raised the blind. Moreover, the state of being light out does not serve as an antecedent for the next sentence, thus triggering the NARRATIVE HALT effect.

FIGURE 3: Narrative progression in (33)

In sum, Webber’s analysis is elegant because (i) it makes use of an independently motivated event structure and (ii) it relates events to times specified by an adverbial in the same way it relates events to times provided by the discourse context, thereby preserving Reichenbach’s (1947) unified notion of a reference time. Despite its elegance, however, Webber’s analysis cannot account for the Russian imperfective aspect, which relates distinct event parts to the REFERENCE TIME. Which event part is at play depends on how the reference time is specified. If it is specified by an adverbial expression, then the Russian imperfective locates an EVENT relative to a reference time. However, if it is specified by the discourse context, then the Russian imperfective could locate the CONSEQUENT STATE of an event relative to a reference time. For example, re-consider the first part of the flashback discourse discussed in section [2], repeated below in (34).

- (34) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
'A week ago, Maria kissed Dudkin.'
b. Za nedelju do toga on *dari-l* ej cvety...
From week to that he give.IPF-PST.3S her flowers
'A week before that he had given her flowers...'

Recall that like its perfective counterpart, (34-b) entails that a flower giving event culminated within the time denoted by the adverbial expression *za nedelju do toga* ('a week before that'). Within Webber's analysis, this means that the imperfective encodes the condition below:

- (35) HYPOTHESIZED RELATION ENCODED BY THE RUSSIAN IMPERFECTIVE
Described event is contained within the reference time

This condition, however, makes the wrong prediction when applied to the discourse below, in (36), which is like (34), except that there is no adverbial in (36-b). In particular, (35) predicts that a flower giving event described in (36-b) is contained within the consequent state of Maria's kissing. From this it follows that a flower giving event followed Maria's kissing. However, as pointed out in section [2], the salient interpretation in (36) is that a flower giving event took place prior to Maria's kissing.

- (36) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
'A week ago, Maria kissed Dudkin.'
b. On *dari-l* ej cvety...
He give.IPF-PST.3S her flowers
'He had given her flowers...'

One way to account for the event ordering in (36) is to treat the Russian imperfective on a par with the English perfect viz. (37) below.

- (37) HYPOTHESIZED RELATION ENCODED BY THE RUSSIAN IMPERFECTIVE
Consequent state of described event contains the reference time (cf. Moens & Steedman (1988)).

Relating (37) to the discourse in (36), we would say that the reference time in (36-b) — i.e. the duration of the consequent state of the kissing event — is contained within the duration of the consequent state of the described event — i.e. the flower giving. This would explain why the flower giving event is understood to precede the kissing event without an adverb; see Figure 4.

FIGURE 4: Event ordering in (36) given in (37)

Unfortunately, the hypothesized relations above in (35) and (37) cannot both be right on a UNIRELATIONAL ANALYSIS, in which aspect constitutes a single relation between a described event and a reference time. Therefore, in section [4.2] I propose to split the notion of a REFERENCE TIME into two distinct parameters (cf. [Kamp & Reyle \(1993\)](#) and [Nelken & Francez \(1997\)](#)). I propose a BIRELATIONAL ANALYSIS in which the meaning of the Russian imperfective involves both temporal information and information about discourse connectivity. In particular, I propose that the Russian imperfective requires information about a time within which a described event *e* is located, viz. the hypothesized relation in (35), and information about a salient discourse state which the consequent state of *e* contains, viz. the hypothesized relation in (37).

[4] MEANING OF THE RUSSIAN IMPERFECTIVE

The goal of this section is to account for the generalization in (38), discussed in section [2].¹⁰

[4.1] *Culmination properties of the Russian imperfective*

(38) ‘CULMINATION’ ENTAILMENT HYPOTHESIS

The Russian imperfective gives rise to an entailment that a described event culminated only when the imperfective combines with a VP that describes an atomic event.

The nuts and bolts of my proposal are as follows. An imperfective operator IPF combines with a VP — which denotes a set of events — and requires that a VP-event stage be contained within some grammatically constrained time interval. Following [Kamp & Reyle \(1993\)](#), I will call this time interval the *location time*. A perfective operator PFV, on the other hand combines with VP and requires that a VP-event be contained within the location time.¹¹

As an example of the proposed analysis, reconsider the first part of the flashback in (39) below: PFV combines with *celovat’ Dudkina* (‘kiss Dudkin’) and requires that a kissing event be contained within the time interval denoted by the adverbial that serves as the location time, namely *nedelju nazad* (‘a week ago’). Moreover, IPF combines with *darit’ cvety* (‘give flowers’) and requires that a stage of a flower giving event be contained within the time interval denoted by the adverbial that serves as the location time, namely *za nedelju do togo* (‘a week before that’).

[10] In what follows, I provide an informal sketch of an analysis. The reader is referred to [Altshuler \(2010\)](#) for details about the formal system.

[11] The requirements imposed by PFV should be seen as constraints imposed on the meanings of the 20-plus perfective prefixes in Russian. See [Romanova \(2006\)](#) for an overview.

- (39) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’
 b. Za nedelju do togo on *dari-l* ej cvety...
 From week to that he give.IPF-PST.3S her flowers
 ‘A week before that he had given her flowers...’

FIGURE 5: Locating a VP-event stage within the location time

Figure 5 illustrates the parallel between the Russian imperfective and perfective: in both cases, an event is contained within the location time. The crucial difference is that IPF makes reference to a VP-event STAGE rather than a VP-event. This difference is neutralized, however, if we assume that an atomic event constitutes an atomic stage, i.e. one that develops into itself in the world of evaluation and presumably every other possible world. For example, the base VP in (39-b) denotes a set of atomic events — i.e. flower giving events — and when IPF is applied to this VP, it leads to an entailment that the only VP-event stage was contained within the location time. This explains the fact that (39-b) entails that Maria successfully received flowers from Dudkin.¹²

IPF applied to an accomplishment denoting VP, however, does not lead to such an entailment assuming that (i) accomplishment events have at least two stages and (ii) IPF does not specify which stage is contained within the location time, i.e. any one of these stages makes an imperfective sentence true (cf. Landman’s (1992) analysis of the progressive operator).¹³ For example, re-consider (40-b) below, which has the accomplishment denoting VP *čitat’ brošjuru ob ètom zdanii* (‘read a brochure about this building’). This sentence entails that some VP-event stage culminated within the time described by *nedlju nazad* (‘a week ago’) and crucially

[12] As noted by Dickey (1995, 2000), imperfective of an achievement VP does not lead to an episodic interpretation in Western Slavic languages (Czech, Slovak, Slovene) and in Polish and Serbo-Croatian; this is only possible in Eastern Slavic languages (Russian, Ukrainian, and Bulgarian). Since achievement events are atomic by definition, the analysis proposed here should be seen as having wider cross-linguistic implications (see Altschuler (2010) for details).

[13] This idea is in spirit of Comrie’s (1976) claim — which in turn is inspired by Jakobson (1932) — that “the Imperfective expresses no specific reference to the completeness of the event” (Comrie 1976, 113).

not that the VP-event culminated within this time as is the case with its perfective counterpart, cf. (41).

- (40) a. Dudkin za-še-l v zamok.
Dudkin PFV-go-PST.3S into castle
'Dudkin entered the castle.'
- b. Nedelju nazad on čita-l brošjuru ob ètom zamke.
Week ago he read.IPF-PST.3S brochure about this castle
'A week ago, he had read (at least some of) a brochure about this castle.'
- (41) a. Dudkin za-še-l v zamok.
Dudkin PFV-go-PST.3S into castle
'Dudkin entered the castle.'
- b. Nedelju nazad on *pro*-čita-l brošjuru ob ètom zamke.
Week ago he PFV-read-PST.3S brochure about this castle
'A week ago, he had read a brochure about this castle.'

[4.2] *Discourse properties of the Russian imperfective*

The goal of this section is to extend the analysis of the Russian imperfective offered in the previous sub-section to account for the generalizations below, discussed in section [2].

- (42) DISCOURSE CONNECTIVITY TO PRIOR DISCOURSE
The Russian imperfective leads to an entailment that the described event does not follow a salient event previously mentioned in the discourse.
- (43) DISCOURSE CONNECTIVITY TO SUBSEQUENT DISCOURSE
The Russian imperfective does not trigger narrative progression.

I begin with the generalization in (42), which has received very little attention in the literature in comparison to (43) but which is nevertheless a core property of the imperfective aspect that any proper analysis must account for.

Re-consider the first part of the flashback discourse in (44) below, where we infer that the flower giving took place prior to the kissing event.

- (44) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
'A week ago, Maria kissed me.'
- b. On *dari-l* ej cvety...
He give.IPF-PST.3S her flowers
'He had given her flowers...'

To account for this inference, I propose that IPF requires that a consequent state of a VP-event stage contain a salient consequent state, which I will henceforth refer to as the TOPIC STATE. The idea is, then, that the discourse properties of the Russian imperfective follow from relating two consequent states: one described by IPF and one supplied by the discourse context. Applying this idea to (44-b), we would say that IPF combines with *darit' cvety* ('give flowers') and requires that a consequent state of a flower giving event stage contain a topic state, which presumably refers to the consequent state of a kissing event in (44-a). Assuming that the containment relation is not proper, this leads to two possible situations in which (44-a) and (44-b) is true: (i) the kissing and the flower giving events overlap, which follows from the consequent state of the kissing event being identified with the consequent state of the flowering giving event stage, viz. Situation 1 in Figure 6, or (ii) the flower giving event precedes the kissing event, which follows from the consequent state of the kissing event being properly contained within the consequent state of the flowering giving event stage, viz. Situation 2 in Figure 6.

FIGURE 6: TOPIC STATE $\subseteq$ consequent state of VP-event stage

Situation 2 is inferred in (44) due to world knowledge. It seems rather unlikely that one kisses someone as they are receiving flowers. Instead, one typically (i) chooses to give flowers as a consequence of being kissed or (ii) kisses someone as a consequence of receiving flowers. The former option is excluded by the meaning of IPF and required by PFV.

One could, of course, create a discourse where Situation 1 is inferred instead. For example, as mentioned in section [2], the most salient inference in (45) is one in which the coming in event overlaps the reading event.

- (45) a. Včera ja voše-l v svoju komnatu.
 Yesterday I PFV.came.in-PST.1S in self room
 'Yesterday, I came into my room.'

- b. Dudkin tam čita-l brošjuru.
 Dudkin there read.IPF-PST.3S brochure
 ‘Dudkin was there reading a brochure.’

This is expected since nothing about our knowledge of the world would rule out such a situation. However, it would be odd to think that the events described in (45-a) and (45-b) are somehow causally linked, as is the case in (44).¹⁴

In sum, the proposal is that in addition to requiring a VP-event stage to be contained within a grammatically constrained location time, the Russian imperfective requires a consequent state of a VP-event stage to contain a topic state, whose value is determined by the surrounding discourse. In this way, the meaning of the Russian imperfective is BIRELATIONAL: it involves both temporal information and information about discourse connectivity. As was shown in this section, the latter information accounts for the generalization in (42). In particular, it follows from the analysis that there are two situations that make an imperfective sentence true.¹⁵ I argued that world knowledge determines whether a VP-event stage OVERLAPS or PRECEDES a previously mentioned discourse event. The latter possibility typically involves an inference in which two events are causally related and this in turn can give rise to a defeasible culminated event inference. The former possibility, on the other hand, typically does not involve a causal relation and a culminated event inference typically does not arise.¹⁶

One question that is raised by the proposed analysis is whether the Russian perfective is also birelational. This issue is addressed in the next section, which proposes a ‘yes’ answer based on the aforementioned RESULT perfect interpretation often found with the perfective. I argue that this interpretation motivates an analysis in which the meaning of the perfective aspect involves (i) temporal information about the time at which an event *e* occurred and (ii) information about a previously mentioned discourse eventuality that the consequence of *e* overlaps.

I end this section by addressing the generalization in (43), mentioned at the outset of this section. Recall that this generalization is concerned with how a described eventuality relates to SUBSEQUENT discourse. The basic idea is that that even though IPF makes reference to the consequent state of a VP-event stage, this state cannot serve as an antecedent (i.e. as a topic state) and therefore narrative progression is not triggered – e.g. there is no order that the events described in (46-b) and (46-c) are understood to have occurred in because the consequent state

[14] One could, of course, imagine a situation in which e.g. the speaker is a detective and comes into his own room to figure out whether Dudkin was there earlier. In such a context, however, the event ordering in (45) would be analogous to (44).

[15] The claim is crucially not that imperfective sentences are ambiguous, cf. the sentence the *boys walked* is not ambiguous, but is true in case the boys walked together or separately (see Schwarzschild (1992)).

[16] For an explicit theory of how causality and other rhetorical relations play a role in fixing event ordering in a discourse see e.g. Lascarides & Asher (1993) and Kehler (2002). See Altshuler (2010) for a proposal that synthesizes Kehler’s theory with the analysis of the Russian imperfective proposed here.

of the giving event stage in (46-b) is not available for anaphoric pick-up in (46-c).

- (46) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’
 b. Za nedelju do toga on *dari-l* ej cvety
 From week to that he give.IPF-PST.3S her flowers
 ‘A week before that he had given her flowers’
 c. i *priglaša-l* ee v teatr.
 and invite.IPF-PST.3S her to theater
 and had invited her to the theater.’

Altshuler (2010) makes this idea formally precise by appealing to the syntax of IPF within Discourse Representation Theory (Kamp 1981, et seq): only a VP-event and a stage of this event are introduced into the so-called “universe” of the formal representation language which hosts antecedents; the consequent state of a VP-event stage is not introduced into the “universe” because it is defined in terms of a VP-event.

[5] MEANING OF THE RUSSIAN PERFECTIVE

In section [2] I discussed how in certain cases, the perfective/imperfective contrast in Russian is analogous to the contrast between the result/experiential perfect in English. This discussion was motivated by the following observation concerning the flashback discourse above, in (46), and below, in (47-b): the consequence of the flower giving and the theater inviting in (47-b) and (47-c) is understood to be more ‘significant’ at the time of the kissing than in (46-b), (46-c).

- (47) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’
 b. Za nedelju do toga on *po-dari-l* ej cvety
 From week to that he PFV-give-PST.3S her flowers
 ‘A week before that he had given her flowers’
 c. i *priglas-l* ee v teatr.
 and PFV-invite-PST.3S her to theater
 and (then) had invited her to the theater.’

To account for these inferences, I first assume that the result/experiential perfect distinction reduces to a difference in the type of consequent state that overlaps a salient eventuality (cf. Higginbotham (2008)). In particular, I assume a difference between (i) a PERMANENT CONSEQUENT STATE¹⁷ which doesn’t have an end-

[17] Cf. the term *resultant state* in Parsons (1990).

ing (e.g. having been kissed) and (ii) a TEMPORARY CONSEQUENT STATE¹⁸ which has an ending (e.g. being invited to the theater).¹⁹ This dichotomy has been used to characterize the sentences in (48) and (49) as follows: the truth conditions of (48) require that a temporary consequent state of a coffee spilling event hold at the speech time. This consequent state feels ‘especially significant’ at the speech time because it will not continue to hold forever — i.e. the coffee spill can easily be wiped up. In contrast, the truth conditions of (49) require a permanent consequent state of a going to Japan event to hold at the speech time. This consequent state does not feel ‘especially significant’ at the speech time because it will continue to hold forever, i.e. the experience of having been to Japan lasts forever.

(48) I have spilled my coffee! *result perfect*

(49) I have been to Japan. *experiential perfect*

Applying this analysis to (46) and (47) above, we could say that in (46-b), (46-c), the permanent consequent states of a flower giving and a theater inviting event overlap the kissing event in (46-a). In (47-b), (47-b), however, the temporary consequent states of a flower giving and a theater inviting event overlap the kissing event in (47-a). If this is right, then the following question arises: what are the meanings of PFV and IPF that would guarantee these temporal relations? With regard to IPF, things are relatively simple; only a minor modification needs to be made to the meaning proposed in the previous section: instead of saying that a CONSEQUENT STATE of VP-event stage contains a topic state, we would say a PERMANENT CONSEQUENT STATE of VP-event stage contains a topic state. This modification is harmless as far as I can see.

With regard to PFV, things are more complex. In section [4.1], it was proposed that PFV requires a VP event to be contained within a location time. Such a relation, however, is independent of the result perfect interpretation. A reasonable hypothesis — given the proposed meaning of IPF — is to say that PFV requires a temporary consequent state of a VP-event to overlap the TOPIC STATE (cf. (Grønn 2003, 231–235)). In this way, PFV would be of the same ‘semantic type’ as IPF — i.e. their meanings would involve a grammatically constrained LOCATION TIME and a TOPIC STATE, whose value is determined by the surrounding discourse. Applying such an analysis to (47-b) above, we would accordingly say that the temporary consequent state of the flower giving (viz. s_2 in Figure 7 on the next page) overlaps the topic state (viz. s_1 in Figure 7), namely the consequent state of the kissing event described in (47-a). Since the flower giving precedes the kissing, this entails that the temporary consequent state of the flower giving event overlaps the kiss-

[18] Cf. the term *reversible result state* in Dowty (1979) and *target state* in Parsons (1990).

[19] In Slavistics the differentiation between temporary and permanent consequent state is termed as *resul'tat* vs. *effekt* (Glovinskaja 2001, 231).

ing event as desired.

FIGURE 7: Temporal ordering of eventualities in (47)

Recall that when (47-b) does not have an adverb, the event ordering is reversed. As illustrated in Figure 8, the temporary consequent state of the flower giving s_2 still overlaps the topic state s_1 in this case. The crucial difference is that (i) the flower giving event e_2 is now contained within the topic state s_1 and (ii) the location time t_2 is unspecified.

FIGURE 8: Temporal ordering of eventualities without the adverb in (47-b)

An important consequence of the proposed analysis is that it can also account for discourse initial, perfective sentences where the consequent state is understood to be ‘significant’ at the speech event rather than a previously mentioned discourse event — e.g. the invitation in (50) is understood to be open at the speech event.

- (50) Nedelju nazad Dudkin *pri-glasi-l* menja v teatr.
 Week ago Dudkin PFV.invite-PST.3S me to theater
 ‘A week ago Dudkin invited me to the theater (and the invitation is still open).’

According to the proposed analysis, the difference between e.g. (47-b) and (50) reduces to the choice of a topic state, which is determined by independent rules of anaphora resolution. In (50), the topic state must be the consequent state of the

speech event since it is the only available antecedent state for a discourse initial sentence. Given the restrictions imposed by PFV, this topic state (viz. s_1 in Figure 9), overlaps the temporary consequent state of the theater inviting event (viz. s_2 in Figure 9). Since the theater inviting precedes the speech event (i.e. it is located a week before the speech event), this entails that the temporary consequent state of the theater inviting event overlaps the speech event as desired.

FIGURE 9: Temporal ordering of eventualities in (50)

Another important consequence of the proposed analysis is that it accounts for the so-called ANNULLED RESULT implicature associated with imperfective sentences (cf. (Grønn 2003, 235–238)). Consider, for example, the discourse in (51), which entails that the guests arrived at Krylov’s residence and implicates that they left prior to the cleaning.

- (51) a. Krylov ubra-l kvartiru.
Krylov PFV-clean-PST.3S apartment.
‘Krylov cleaned up the apartment.’
b. Za čas do togo, k nemu *prixodi-l-i* gosti.
From hour to that to him come.IPF-PST-3P guests
‘An hour before that guests had visited him (and then left).’

We can say that (51-b) has the annulled result implicature because its perfective counterpart entails that a temporary consequent state of the arrival (e.g. the guests being at Krylov’s house) holds at the time of the cleaning event; see below, where (52) is a bit odd because people don’t typically clean when they have guests over.

- (52) a. Krylov ubra-l kvartiru.
Krylov PFV-clean-PST.3S apartment.
‘Krylov cleaned up the apartment.’
b. ?Za čas do togo, k nemu *priš-l-i* gosti.
From hour to that to him PFV.come-PST-3P guests
‘An hour before that guests had visited him.’

In other words, we can derive the annulled result implicature in the following way:

- (53) DERIVING THE ANNULLED RESULT IMPLICATURE IN (51) (*to be amended*)
- a. If we wanted to assert that a temporary consequent state of the arrival held at the time of the cleaning event, then we would use the PFV, which would entail this.
 - b. We did not use the PFV.
 - c. Therefore, a temporary consequent state of the arrival did not hold at the time of the cleaning event.

I end this section with two challenges for the proposed analysis. The first concerns the observation that the perfective sentence in (46-a)/(47-a), repeated below in (54), does not lead to an inference in which the consequent state of the kissing event is ‘significant’ at the speech event.

- (54) Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’

An explanation for this fact may have to do with the following observation: the property of having a well-defined TEMPORARY consequent state is characteristic of some VPs, but not others (Dowty 1979, 255). This is especially easy to see in Russian. As shown by Grønn (2003) in (55) below, modifying a perfective predicate like *otkryl magazin* (‘opened the store’) with *na dva časa* (‘for two hours’) leads to the entailment that the store was open for two hours (and not that it took two hours to open the store). However, when a *na*-phrase modifies the perfective predicate *smotrel fil’m* (‘watched a movie’) as in (56) below, the resulting sentence is ungrammatical (cf. Piñon’s (1999) discussion of similar phenomena in German and Hungarian). This is expected, according to Grønn, if we assume that *na*-phrases measure consequent states and unlike store openings, movie watchings do not have well-defined consequent states that can be measured (i.e. ones that are TEMPORARY).

- (55) Kupec *otkry-l* magazin na dva časa.
 Shopkeeper PFV-open-PST.3s store for two hours
 ‘The shopkeeper opened the store for two hours.’ (Grønn 2003, 233)
- (56) #Ivan Petrovič *po-smotre-l* fil’m na dva časa.
 Ivan Petrovich PFV-watch-PST.3s movie for two hours
 ‘Ivan Petrovich watched the movie for two hours.’ (Grønn 2003, 233)

In the light of this data, Grønn (2003) proposes that perfective aspect makes reference to a temporary consequent state only if defined. Applying this insight to the analysis proposed in this section, we would say the following:

(57) HYPOTHESIS ABOUT PFV (*to be amended*)²⁰

PFV requires the temporary consequent state of a VP-event to overlap the topic state if such a consequent state is defined; otherwise PFV requires the permanent consequent state of a VP event to overlap the topic state.

According to the hypothesis above, the perfective aspect makes reference to a temporary consequent state in examples such as (47-b), (47-c) and (50) above because such a consequent state is defined for VPs that describe flower giving and theater inviting events. In examples such as (54), however, the perfective aspect makes reference to a permanent consequent state because only such a consequent state is defined for a VP that describes a kissing event.

A problem with the hypothesis in (57) comes from Rassudova's (1968) example below, discussed at the outset of this paper. In (58-a), we see the perfective predicate *priexal* ('arrived') for which a temporary consequent state — i.e. the state of being present at the speaker's location — is defined. Therefore, given (57) and the fact that (58-a) is discourse initial, this temporary consequent state should be understood to overlap the speech event, viz. (50). This is not the case, however, given (58-b).

- (58) a. K nam *priexa-l* otec,
 To us PFV.arrive-PST.3S father
 'Father came/had come to see us,
 b. no vskore *u-exa-l*.
 but in.a.rush PFV-go-PST.3S
 but he went away again soon.'

One possible response is to say to revise the hypothesis in (57) as follows:

(59) HYPOTHESIS ABOUT PFV (*final version*)

PFV requires the most informative consequent state of a VP-event to overlap a topic state.

Given (59), a temporary consequent state would be inferred in (58-a) if (58-b) were not present because it is the most informative. Given (58-b), however, such a consequent state would lead to a contradiction and therefore a permanent consequent state is inferred instead. Moreover, given (59), we would revise the annulled result derivation in (53) as follows:

[20] This hypothesis is reminiscent of Keenan's (1974) analysis of the adjective "flat": "flat N" means an N whose solid surface is not bumpy, if defined; otherwise it means... e.g. "flat boat" vs. "flat beer".

- (60) DERIVING THE ANNULLED RESULT IMPLICATURE IN (51) (*final version*)
- a. If we wanted to assert that a temporary consequent state of the arrival held at the time of the cleaning event, then — given (59) — we would use PFV.
 - b. We did not use the PFV.
 - c. Therefore, a temporary consequent state of the arrival did not hold at the time of the cleaning event.

[6] CONCLUSION

In this paper I provided a single meaning for the Russian imperfective that explained — in a straightforward way — why this aspect is similar to the perfective in some contexts but not others. To do so, I focused on cases in which a verb phrase (VP) was inherently *TELIC* and it therefore made sense to talk about an event's 'culmination.' I proposed to relate the culmination properties of the Russian imperfective to atomicity. I showed how the culmination entailment is expected when the imperfective combines with VPs that denote atomic events because the imperfective must refer to the entire VP-event in such cases. This entailment doesn't arise when the imperfective combines with VPs that denote nonatomic events because such events constitute multiple stages and any one of them makes an imperfective sentence true. This explains why the culmination differences between the perfective and imperfective aspect are neutralized with VPs that denote atomic events, but not with other types of VPs.

Subsequently, I accounted for the discourse properties of the Russian imperfective. These properties are intimately related to how the imperfective constrains the temporal location of a VP-event. The standard view is to say that aspect locates an eventuality relative to a single parameter: a *TIME* that can be specified by a grammatical expression (e.g. an adverb) or the discourse context. However, based on data involving the Russian imperfective, I argued for a *BIRELATIONAL ANALYSIS* in which an imperfective operator imposes two requirements: (i) a VP-event stage is contained within a grammatically constrained location time and (ii) the consequent state of a VP-event stage contains a topic state, whose value is determined by the discourse context. I showed how it follows from this analysis that there are two situations that make an imperfective sentence true and argued that world knowledge determines whether a VP-event stage *OVERLAPS* or *PRECEDES* a previously mentioned discourse event. The latter possibility typically involves an inference in which two events are causally related and this in turn can give rise to a culminated event inference. The former possibility, on the other hand, typically does not involve a causal relation and a culminated event inference typically does not arise.

The proposed analysis raised several questions. Chief among them was whether

the Russian perfective is also birelational. This paper proposed a ‘yes’ answer: in order to account for the result perfect interpretation often found with the perfective, one needs to assume that the perfective requires (i) temporal information about the time at which an event *e* occurred and (ii) information about a previously mentioned discourse eventuality that the consequence of *e* overlaps. In turn, I discussed how these requirements could explain (i) why the result perfect interpretation is found with the perfective in some contexts, but not others and (ii) how the meaning of the perfective aspect leads to the so-called ANNULLED RESULT implicature with the imperfective.

I end this paper by coming back to Rassudova’s (1968) examples below, which was discussed at the outset of this paper.

- (61) K nam *priežža-l* otec, no *vskore* u-exa-l.
 To us arrive.IPF-PST.3S father but in.a.rush PFV-go-PST.3S
 ‘Father came/had come to see us, but he went away again soon.’
- (62) K nam *priexa-l* otec, no *vskore* u-exa-l.
 To us PFV.arrive-PST.3S father but in.a.rush PFV-go-PST.3S
 ‘Father had came/came to see us, but he went away again soon.’

Given the analysis developed in this paper, there are a number of differences between the imperfective and perfective aspect. These differences are concerned with

- (i) the culmination entailment property
- (ii) discourse connectivity to prior discourse
- (iii) discourse connectivity to subsequent discourse
- (iv) result vs. experiential perfect interpretation

The difference with regard to (i) is neutralized in the examples above because the base VPs denote a set of atomic events. There cannot be a difference with regard to (ii) because the sentences are discourse initial. The difference with regard to (iii) is neutralized by *no vskore* (‘but in a rush’), which triggers a narrative progression. Finally, the difference with regard to (iv) is neutralized by the follow-up *no vskore uexa-l* (‘but left in a rush’). That is, (61) describes a permanent consequent state of the father’s arrival analogous to (62) because a TEMPORARY consequent state of an arrival is incompatible with *no vskore uexa-l* (‘but left in a rush’). Given the neutralization, it is extremely difficult (perhaps impossible) to state the difference between these two sentences.

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