On (in)definite tense and aspect in Russian*

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1. Introduction

The semantics of tense and aspect in natural language involves primitive relations such as temporal precedence, temporal inclusion etc. The arguments (times and events) that participate in these relations can be definite (discourse old) or indefinite (discourse new). In order to implement this idea we need a dynamic framework. The framework must furthermore be compositional to account for the systematic interaction between tense and aspect. In Grønn & von Stechow (to appear) we try to bring these ingredients together in a general theory with examples mostly from English.

In section 2, I will show how the system works for tenses in Russian, including embedded tenses. The idea is to present at a semi-formal, intuitive level the most important observations and facts supporting this kind of approach.

For the rest of the paper, starting with section 3, I will focus on Russian aspect and illustrate the phenomenon of (in)definite aspect with the notoriously difficult ‘factual’ reading of the Russian imperfective (Grønn 2004). I will make two principled arguments concerning the Russian imperfective: there is no unified semantics for this unmarked form; in fact even the factual IPF, characterized by the semantically perfective inclusion relation ‘e ⊆ t’, can be divided into two readings – an indefinite and a definite event reading depending on the discourse status of ‘e’. Second, I see no principled reasons for why this complete event interpretation ‘e ⊆ t’ should be limited to past tense (e.g. the deictic past: t < now). Hence, this semantically ‘fake’ imperfective is expected to occur with other tenses, and also in non-indicative moods, whenever pragmatic reasoning enhances a ‘perfective-like’ interpretation of the imperfective.

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2. (In)definite tense in Russian

Partee’s (1973) famous argument for an anaphoric past tense in English can be duplicated for Russian:\(^1\):

\[\begin{align*}
(1) & \quad \text{Ja spustilsja vniz i byl šokirovan: ja ne vyključil} \\
& \quad \text{I came down and was shocked: I not.NEG.PART turn off.PF.PAST} \\
& \quad \text{plity i načalsja bol’šoj požar!} \\
& \quad \text{stove and began big fire} \\
& \quad \text{‘I came down and was shocked: I didn’t turn off the stove and a big fire began!’ (Internet)}
\end{align*}\]

A quantificational, indefinite analysis for the simple past (\(\exists t. t < \text{now} \ldots\)) predicts scopal interaction with negation. However, the Russian sentence doesn’t mean that there is a time in the past at which I didn’t turn off the stove (trivially true), nor does it mean that there is no time in the past at which I turned off the stove (too strong to be true). Partee’s claim is therefore that the past cannot be an existential quantifier “there is a time before the speech time”. Instead she proposes to treat the past as anaphoric/referential.

In the spirit of Partee’s referential past it has become quite standard in the literature to adopt the following presuppositional semantics for past tense:

\[\begin{align*}
(2) & \quad \text{Referential Past} \\
& \quad [[\text{PAST}_t]]^g \text{ is only defined if } g(i) < \text{now}. \text{ If defined, } [[\text{PAST}_t]]^g = g(i).
\end{align*}\]

If we combine (2) with the traditional meaning for AspP based on the perfective aspect in (3) below, we seem to get the right truth-conditions for Partee’s example.

\[\begin{align*}
(3) & \quad \text{Perfective aspect} \\
& \quad [[\text{PF}]] = \lambda \text{Q}\lambda t. \exists e [e \subseteq t \& \text{Q(e)}]
\end{align*}\]

The LF is given in (4) and the truth-conditions are spelled out in (5). \(\text{PAST}_5\) is a temporal variable of type \(i\) (mnemonic for interval) denoting the time the speaker has in mind, say the interval (10.00 am, 10.15 am).

\[\begin{align*}
(4) & \quad \text{NEG PAST}_5\text{PF} \text{ I turn-off the stove}
\end{align*}\]

\(^1\) This section draws on recent joint work by Grønn & von Stechow.
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(5) \( \neg \exists e \left[ e \subseteq g(5) \land \text{I turn off the stove}(e) \right] \), where \( g(5) < \text{now} \land g(5) = (10.00 \, \text{am}, 10.15 \, \text{am}) \)

The referential approach to tense was developed in a static framework by Kratzer (1998) and others. However, just as the indefinite, quantificational tense analysis in early Montague grammar cannot be the whole story, there are also arguments against the treatment of tenses as temporal variables with a presupposition.

One problem on the latter approach is to account for the quasi-obligatory backward shifting with an embedded past tense under a past attitude verb in non-Sequence-of-tense languages like Russian.

(6) Ona [...] sprosila, spali li on
She [...] asked.pf.past slept.ipf.past if he.
‘She [...] asked him if he had slept.’

(Tolstoy, “Anna Karenina”; the RuN-Euro parallel corpus)

Kratzer (1998) writes that “if tense is pronominal, we need other devices that shift the evaluation time back and forth”. For English she suggests that a covert aspect is responsible for the shift. However, for Russian this solution is intuitively not very attractive since VPs marked with both perfective and imperfective aspect can be shifted. For constructions such as (6) it seems much more natural to treat the past as a quantificational relative past:

(7) \([\text{PAST}] = \lambda P \forall t. \exists t' [t' < t \land P(t')]\]

If we combine the meaning in (7) with the denotation of AspP, a property of times, we get another property of times. This abstraction over a time argument is required for embedded past sentences under attitude verbs, cf. (Grønn & von Stechow 2010).

Partee (1973) conjectured that there is a division of labor in English between morphological tenses (-ed) – which are anaphoric (definite/ referential/ presuppositional) – and temporal auxiliaries (have P-ed, will P), which are quantificational/indefinite (time shifters). This view gets some support from the English translation in (6) above (had slept), but for Russian this idea does not work. Russian – with the exception of budet (will) – lacks the rich system of temporal auxiliaries that we find in Germanic. Russian has therefore almost exclusively morphological, synthetic tense marking – which I will argue to be semantically ambiguous.

Thus, in Russian, an embedded synthetic future can shift the reference time as well (Grønn & von Stechow, 2012):
(8) *Ona byla nemogo prostužena i skazala,*
She was little cold and said.PF.PAST
*če to oni segodnja pobudut doma,*
that they today stay.PF.FUT home
‘She had a bit of cold, said they would be staying in
for the day’

(Kurkov, “Piknik na l´du”; the RuN-Euro parallel corpus)

(9) \[ [[\text{FUT}]] = \lambda P \lambda t. \exists t’ [t’ > t & P(t’)] \]

For such examples one can assume that the ‘perfective present’ morphology
in Russian has two morphological (‘uninterpretable’) features, u-PF and u-Fut,
which are checked by the perfective operator in (3) and the future time shifter in
(9).

The account extends also to tense shifting in adjuncts, e.g., forward shifting
in relative clauses:

(10) *Imenno v universitete devuška poznamilas’ s*
Exactly in university the girl got acquainted.PF.PAST with
*Bilnom Klintonom, kotoryj vposledstvii stanet ee mužem.*
Bill Clinton who afterwards become.PF.FUT her husband
‘At the university the girl got to know Bill Clinton, who would later
become her husband’

(Internet; my translation)

So, Russian tenses do double duty as both quantificational and referential,
i.e., (in)definite tenses. In Grønn & von Stechow (to appear), we propose a uni-
form approach to this dichotomy.

The main claim is that an indefinite tense introduces a new temporal dis-
course referent, while a definite tense is anaphoric to an old discourse referent,
-presupposing its descriptive content, i.e. the temporal relation. To implement
this idea, we treat tenses and aspects as purely relational, with a covert indefinite
or definite article on top.

The system has the following deictic and relational tenses, i.e., two-place
predicates of times.²

(11) Deictic tenses
\[
[[N]] = s^* \text{ (the speech time)}
[[\text{PAST}^*]] = \lambda t. t < s^*
\]

² For simplicity I will only give the non-dynamic version below.
(12) Relational tenses
\[
[[\text{PAST}]] = \lambda t \lambda t'. t' < t
\]
\[
[[\text{FUT}]] = \lambda t \lambda t'. t' > t
\]

To this we add a covert indefinite or definite article. If the article introduces a new discourse referent, then the tense will be a shifter; if the discourse referent is old, the tense is anaphoric.

Both indefinites and definites have the format of dynamic generalized quantifiers. For reasons of space I will not introduce the full dynamic system in this paper. In (Grønn & von Stechow, to appear), where we work with discourse referents d (of type <d>), context change potentials (of type <cc>) and dynamic predicates (of type <d,cc>) in a typed Heimian semantics, the operators in question have the following meaning:

(13) (In)definite operators of type <d,<d,cc>,<<d,cc>,cc>>
\[
[[\text{ind}]] = \lambda d \lambda P \lambda Q \lambda c: d \not\in \text{dom}(c). \{ <f,w> | (\exists g \in c) g \subseteq f \land d \in \text{dom}(f) \land <f,w> \in (([c \text{ add } d] + P(d)) + Q(d)) \}^3
\]
\[
[[\text{def}]] = \lambda d \lambda P \lambda Q \lambda c: c \models P(d). \{ <f,w> | (\exists g \in c) g \subseteq f \land <f,w> \in c + Q(d) \}
\]

The operator ind introduces d as a new discourse marker and updates the context with the restriction P(d) and the nucleus Q(d). The definite article def picks up a familiar discourse marker, i.e., one that is in the domain of the local context.

The restriction of the quantifier in the temporal domain contains at least the temporal relation contributed by tense proper (\langle, \rangle). In the case of definites, the restriction is entirely presupposed (in the notation above, the presupposition occurs between “:” and “.”).

We thereby eventually arrive at the tense architecture in (14).

\[\text{A notation like ‘c add d’ says that we make the d-assignments in c a bit bigger: We enlarge their domain with the discourse marker d, where d may have any value.}\]
\[\text{For simplicity, I use the non-dynamic types in (14).}\]
(14) Tense architecture
   a. A T-relation \{PAST, FUT\} of type \langle i, it \rangle combines with a T-centre
      \{N, Tpro (in adjuncts), TPRO (in complement clauses)\} of type
      \langle i \rangle, producing a temporal predicate of type \langle it \rangle.
   b. A temporal operator \{ind, def\} of type \langle it, \langle it, t \rangle \rangle combines with the
      temporal predicate in (a) to produce a temporal quantifier of type
      \langle it, t \rangle, whose restriction is the predicate in (a).
   c. An AspP \( \alpha \) of type \langle it \rangle is the nucleus of the temporal operator
      \{ind, def\}, hence input to the temporal quantifier in (b) resulting in a
      TP of type \langle t \rangle.

On this view, most tenses are not simply pronominal as in Partee (1973), but
rather are relations between two times, of which only one is a pro-form (TPRO
is used in intensional contexts, e.g. under attitudes; Tpro is used when the tem-
poral center is anaphoric, e.g. in relative clauses).

This picture leads to a nice analogy between tenses and noun phrases. Many
languages, and Russian is one of them, have no overt \([\pm \text{def}]\) marking in the no-
minal domain. NPs in such languages are then ambiguous with respect to \([\pm \text{def}]\).
Since we find ambiguity in the nominal domain, we should not be surprised to
find it in other domains as well. By loosening the correspondence between
(in)definiteness and article morphology, we discover that the ambiguity arises
not only with tense in the temporal domain, but also with aspect in the event
domain.

3. (In)definite aspect in Russian and the factual IPF

The subclass of factual IPF dubbed the ‘existential IPF’ (Padučeva 1996, Grønn
2004) displays indefinite tense and indefinite aspect:

(15) *Kto čital roman Džojsa?* (Internet; existential IPF)
    Who read.IPFPAST novel Joyce
    ‘Who [has] read a novel by Joyce?’ ≈
    ‘Who has at a time before now performed a reading of a novel by Joyce?’

The other main group, the ‘presuppositional IPF’ (Grønn 2004), has definite
tense and definite aspect:
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Kto spal v moy posteli? (Internet; presuppositional IPF)
Who slept.IP.F.PAST in my bed
‘Who slept in my bed?’ ≈
‘Who did at that time before now perform that sleeping in my bed?’

The hypothesis that comes to mind based on these labels and semantic paraphrases is to explore the idea that we have ±def in the event domain as well.

3.1 Non-trivial cases of the existential IPF

Once we start looking systematically into ±def, a fundamental distinction in natural language, a broader view on what is traditionally called the ‘general-factual IPF’ suggests itself. The following kind of examples are largely ignored in the literature, although they clearly instantiate the characteristic temporal configuration e ⊆ t of the factual IPF. Since the reference time is a new time t which is backwards shifted w.r.t the time of the matrix, and the event is a new event introduced by a verb in imperfective aspect, we have a variant of an existential imperfective reading:

(17) Redko v naši dni vstretiš’ čeloveka, (Internet)
Rarely in our days meet.IP.FUT person
kotoryj čital roman “Uliss”.
who read.IP.PAST.PARTICIPLE novel “Ulysses”
‘In our days, one will rarely meet a person who [has] read the novel “Ulysses”.’

(18) Redko v naši dni vstretiš’ čeloveka, (Internet)
Rarely in our days meet.IP.FUT person
čitavšego èto proizvedenie having read.IP.PAST.PARTICIPLE this work
‘In our days, one will rarely meet a person having read this work.’

Ignoring complications relating to the modalized use of the present perfective in the matrix sentences in (17) and (18), we should end up with formulae containing at least the italicized part of the following temporal relations and quantifiers:

(19) ... RARELY <e,t>. e ⊆ t & meet(e) ... ∃t’ [t’ < t & ∃e’ [e’ ⊆ t’ & read(e’)]]

The interval-based aspecual inclusion configurations used throughout this paper have become folklore since Klein (1995), but Klein does’t show how one systematically calculates the value of the reference/assertion time (the contribution of tense in interaction with overt and covert temporal adverbials), nor how
one systematically combines tense and aspect at the syntax-semantics interface. An early compositional analysis is found in Krifka (1989).

From a compositional perspective it is clear that the factual IPF should not per se be restricted to deictic past tense. Aspect as such only contributes the configuration \( e \subseteq t \), while the location of \( t \) is provided by tense (and temporal adverbials). Accordingly, one should be careful with traditional terminology such as the Russian label *vido-vremennaja kategorija* which invites an unfortunate non-compositional amalgam of aspect and tense, two categories which are clearly separated in Russian verb morphology.

Nevertheless, in my earlier work (Grønn 2004) I made a practical decision to focus on the factual IPF exclusively in past tense. This is also the approach adopted by every Slavic aspectologist. Indeed, the factual IPF occurs prototypically in ‘past tense’. However, this view is in need of clarification. First, it is not quite clear what is meant by ‘past tense’ in the literature. Is it past tense morphology (the suffix -*)? Then example (17) above should qualify as a case of factual IPF. Or is it a past tense interpretation, e.g. backwards shifting of the reference time? Then example (18) with the imperfective past participle should fit in. Note incidentally that the participle in (18) unambiguously has a non-deictic relative past interpretation – the reading event is before the meeting, not necessarily before the utterance time.

In either case, an approach that on principled grounds reduces this reading of the Russian imperfective to morphological or semantic past tense may end up being too reductionist and overlook some important generalizations.

It is natural to assume that reference to complete events, the hallmark of the factual IPF, can also take place in non-finite verb forms (infinitives, participles) or non-indicative verb forms (imperatives (Alvestad 2013), subjunctive counterfactuals (Grønn 2013) etc.). In principle, the factual IPF could also occur under negation (a point made in Altshuler (2014)). This said, the pragmatic competition between IPF and PF will certainly be different in these ‘new’ contexts, compared to the canonical past tense environment.

True, from a purely terminological point of view, the label ‘(general-)factual IPF’ may be somewhat misleading outside the indicative past tense. If we extend the phenomenon to cover a certain usage of imperfective aspect in, say, imperatives, we cannot reasonably say that we are dealing with ‘facts’ in any intuitive sense. A better term would perhaps be ‘fake IPF’ (Grønn 2013), a label which suggests a pragmatic account: the morphological imperfective does not retain its truly imperfective meaning in this environment but can be used with a ‘perfective’ (‘fake’) meaning in competition with the morphological perfective aspect.

Here are some imperfective sentences with a ‘perfective’ \( e \subseteq t \) and existential interpretation, i.e., the aspect introduces a new complete event:
(20) *Sejčas u nas net daze magazina, da i kto budet ego otkryvat’ v posělke s číslennost’ju naselenija v 160 čelovek?*

‘Today we don’t even have a shop, and who will open one in a village with a population of 160 people?’


‘I know now why he never groans. I asked him, and he replied: Read the novel “The Gadfly” and you’ll know.’

(Ostrovska, “Kak zakaljalas’stal’”; the Parasol corpus; example from Alvestad 2013)

(22) *Redko vstretiš’ čeloveka, kotoryj čital by Belye odeždy” Dudinceva.*

‘One will rarely meet a person who [would have] read “White clothes” by Dudincev.’

(23) *Naverno, my uznali by druga, esli by kogda-nibud’ ran’še uže videlis’.*

‘We would probably have recognized each other if we had already seen each other at some time earlier.’

In (20), the reference time is forward shifted by *budet*, a temporal auxiliary which subcategorizes for an imperfective infinitive. This kind of fake IPF with future time reference is largely ignored in the literature, where it is sometimes claimed that there is an asymmetry between the past and the future that restricts the availability of factual readings with future tense marking (Altshuler 2014).

In the next example (21), the forward shift is done by the imperative, a future-directed speech act which triggers the insertion of a covert FUT at LF (Alvestad 2013).

Then in (22) and (23) we have the familiar backward shifting, a retrospective reference time (Padučeva 1996). Note that it is not trivial to decide whether the backward shifting with respect to the matrix is done overtly by the *l*-morpheme in these examples since past tense morphology is known to be ‘fake’
under the subjunctive particle by (see Grønn (2013) for a discussion of fake tense in Russian). Still the temporal interpretation clearly gives us an existential past IPF both in (22) and (23).

Whether the semantic tense operator is deictic or a relative past tense in the relative clause in (22) is another non-trivial question which deserves our attention. In general, tense in participles – as in (18) above – is always dependent on the matrix tense, while tense in Russian relative clauses is mostly deictic, i.e., independent of the matrix tense (Grønn & von Stechow 2012). However, the most natural interpretation of (22) seems to involve a dependent relative past tense in the subjunctive relative clause. The temporal structure of these constructions is clearly not very well understood and needs to be studied further.

In the literature on the factual (fake) IPF, examples like (22) and (23) are in fact never discussed – presumably due to the presence of the subjunctive particle by. Again, from a compositional point of view, this position seems to be unjustified.

Thus, concerning the aspectual competition between the perfective uvidelis’ and the imperfective videlis’ embedded under by in cases like (23), the null hypothesis should be that whatever analysis is needed to account for the competition between these verb forms in purely indicative contexts, this analysis should also explain the pragmatic choice of the imperfective in (23). Whether this hypothesis can be maintained, however, is far from clear, since various factors involved in pragmatic competition are highly context-sensitive. I will leave these questions to future research, but see Grønn (2008; 2013) for some ideas on pragmatic competition in Russian aspect.

3.2 Non-trivial cases of the presuppositional IPF

Both time and event arguments are arguably anaphoric in the following authentic examples.

(24) Ja – tot soldat, kotoryj spal v tvoём dome.
I that soldier who slept.IP.PAST in your house
‘I am the soldier who slept in your house.’ (Internet)

(25) Kogda prinesla s počty posylku, to čut’ ne peredralis’
When brought.PF.PAST from post package then almost not fight.PF.PAST
s rebënkom kto budet eë otkryvat’.
with kid who will.AUX it open.IP.INF
‘When I brought home the package, I almost had a fight with the kid about who should (lit. ‘will’) open it.’ (Internet)
The anaphoric imperfective event in (24) and (25) requires accommodation of an appropriate antecedent. In both contexts the denotation of the VP is backgrounded and presupposed, except for the agent role (kotoryj/kto – who) which makes up the assertion.

In (25) the fake imperfective has a prospective reference time (a relative future w.r.t. the matrix reference time). As said above, the factual IPF is often characterized as having a retrospective reference time (Padučeva 1996), but here I advocate a compositional approach where the contribution of aspect (e \(\subseteq\) t) is separated from tense.

A prospective reference time is also found with imperatives:

(26) \textit{Možno vojti? Vkhodite!}
\textit{may.MODAL.ADV come in.PF.INF come in.IPF.IMPERATIVE}
\textit{‘May I come in? Come in!’}

At first glance the anaphoric imperfective imperative event in (26) may seem to have an antecedent provided by the event argument of \textit{vojti} – \textit{to come in}. However, this event is embedded under modality (možno – may) and is not straightforwardly accessible. Alvestad (2013) considers the possibility of treating such examples as involving modal subordination (the imperative is arguably a modal with universal force). In that case, it may still be possible to analyze (26) on a par with my treatment of the presuppositional IPF in indicative contexts (Grønn 2004) – see below.

3.3 Recent approaches to the (existential) factual IPF

Altshuler (2012) and Arregui et al. (2014) have recently argued for a unified semantics for the Russian imperfective. The latter even try to unify the core meaning of imperfective aspect cross-linguistically. The analyses are conceptually rather complicated and I can here only scratch the surface.

Altshuler’s favorite minimal pair is the following:

(27) \textit{Nedelju nazad Marija pocelovala Dudkina.}
\textit{week ago Maria kissed.PF.PAST Dudkin}
\textit{On podaril ej cvety i priglasil eë v teatr.}
\textit{he gave.PF.PAST her flowers and invited.PF.PAST her to theatre}
\textit{‘A week ago, Maria kissed Dudkin. He gave her flowers and invited her to the theatre’}.
The two texts differ only in the aspectual choices in the last part. With perfective aspect all the way, as in (27), we get narrative progression: one completed event follows another in the order they appear in the text. This is not so with the imperfective in (28), where the flower-giving (IPF) precedes the kissing (PF). According to Altshuler (2012), the Russian imperfective describes the consequent state of the flower-giving event and should be treated on a par with the English pluperfect. Let’s see how this is captured by Altshuler’s compositional DRT-semantics for the Russian imperfective:

(29) \[ ([\text{IPF}_{\text{Altshuler,2012}}]) = \lambda P \lambda s \lambda t. [e', e, w | e' \subseteq t, s \subseteq \text{Beg} (\text{Cons}(e')) , \text{Stage} (e', e, w^*, w, P)] \]

The “Stage”-relation is needed in order to account for the well-known imperfective paradox. However, our concern is here with other parts of the DRS. First, it should be pointed out that the temporal inclusion relation e' \subseteq t is rather weak with e' being only a stage (possibly improper) of the VP-event e. However, in the case of factual IPF we are back to our familiar ‘strong’ complete event interpretation since e' = e. What is more intriguing, though, is the state argument s, which plays a crucial role in Altshuler’s theory. The Russian imperfective is a stativizer on this account – in fact, it is a perfectivizer since s holds at the beginning of a consequent state of e'.

This treatment of (the factual) IPF shares certain properties with the one advocated by Arregui et al. (2014) in the framework of situation semantics. It seems to me that the latter would assign the truth-conditions below to the second sentence in (28). The variables s and s' range over situations.

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5 Without going into the details, Stage is defined such that P(e) holds in the inertia world w. In the utterance world w* the imperfective only requires that a stage e' of e is instantiated. I agree with Altshuler that an account of the progressive reading has to be modalized along similar lines, although to keep with a more modular approach I would opt for separating the modal operator PROG and the temporal operator IPF.
In this approach the distribution of imperfective readings cross-linguistically follows from differences in the set of admissible modal bases (MBs) associated with IPF. The Russian IPF, on its factual reading, has a ‘resultative’ MB.

What is common between (29) and (30) is the attention given to a state/situation resulting from the VP-event. These analyses capture the fact that the existential IPF in Russian is often translated by a (plu)perfect in English. However, counterexamples are obviously easy to find. Furthermore, the behavior of temporal adverbials is very different in the composite pluperfect compared to factual IPF. On a result state analysis of the Germanic/Romance pluperfect, the state argument can be targeted by temporal adverbials. This is not possible with the factual IPF where positional adverbials (e.g. na prošloj nedele – last week) always modify the reference/assertion time t in the inclusion relation e ⊆ t associated with the VP-event.

An account of Altshuler’s example within the current framework would be rather straightforward: The factual IPF in the flower-giving event is merely responsible for the inclusion relation e ⊆ t. Above AspP, we have a relative past (cf. the morpheme –l) with the simple relational semantics in (12), that is, λ.t.λ.t’. t’ < t. The ‘lower tense’ t’ is indefinite (ind), while the temporal centre t is indeed definite (def) and anaphoric to the reference time of the kissing-event. On this account, the ‘pluperfect’ interpretation follows immediately, respecting a natural division of labor between tense and aspect in the compositional build-up of the temporal structure.

3.4 The role of pragmatic strengthening

In my earlier work (Grønn 2004) I gave the imperfective a very weak semantics in terms of temporal overlap, which was intended to represent the underspecified meaning of the imperfective, the idea being that the meaning is pragmatically strengthened to encode either e ⊆ t or t ⊆ e. Arregui et al. (2014), who defend a

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6 ‘Last week Dudkin had already invited Mary for dinner’ has a reading where the inviting-event was before last week, i.e., the consequent state of the inviting-event holds at the time interval denoted by ‘last week’.
unified semantics of the imperfective, argue explicitly against an analysis based on pragmatic competition and pragmatic strengthening.

In the latest version of his theory, Altshuler (2014) pays more attention to pragmatic strengthening. Basically, he treats the Russian imperfective as a partitive operator ≤. The question for Altshuler (2014), as it was for me in Grønn (2004), is how the weak partitive meaning is pragmatically strengthened to denote either a proper subpart of the event (⊂) or the complete event (=).

While I believe in pragmatic strengthening and, eventually, fossilization and conventionalization of various imperfective readings into the semantics (Grønn 2007), I’m not sure in what sense we need the overlap or subpart relation as part of a unified semantics of the imperfective. At least, the facts are more complicated.

The view that I have defended in recent papers is that the ‘unmarked’ imperfective can be used whenever the marked perfective is inappropriate. This is how the well-known ‘two-ways implicature’ of IPF arises in (31a), but it is also the deeper motivation for the counterfactual implicature of IPF in (32a).

(31) a. *Vanja priežžal v Moskvu.*
Vanja came.IPF.PAST to Moscow
‘Vanja came to Moscow (and left again).’

b. *Vanja priekhal v Moskvu.*
Vanja came.PF.PAST to Moscow
‘Vanja came (has come) to Moscow.’

Extra half point in last round gave.IPF.PAST us silver
‘An extra half point in the last round would have given (lit. ‘gave’) us the silver medal.’

b. *Lišnie pol-očka v poslednem ture dali nam serebro.*
Extra half point in last round gave.PF.PAST us silver
‘An (the) extra half point in the last round gave us the silver medal.’

The very general overlap or improper subpart relations are not enough to capture the ‘counterfactual IPF’ typically used in Russian chess jargon (Grønn 2013); the account has to be modalized. However, my worry is more general.

Even a uniform modal approach cannot explain why the Russian IPF gets a non-modal interpretation in (31a) and modal one in (32a). Why can’t (31a) – in the right context – have a modal reading “Vanja would have come to Moscow (if his flight hadn’t been cancelled)” on a par with (32a)? And why is the standard indicative complete event interpretation blocked in (32a)? Only the competition perspective taking into account the division of labor between morphological
IPF and PF can provide an answer to these fundamental questions for a theory of Russian aspect. The motivation for the use of the imperfective in the examples above is not to be found in a unified semantics for IPF, but in context-sensitive competition with the perfective. Therefore, I think it is unlikely that ‘unmarked’ aspects and tenses have an invariant semantics.7

3.5 Alternative approaches to the presuppositional IPF

In fact, the unified semantic approaches have little to say about the presuppositional IPF. There are three alternative semantic analyses of this reading as far as I can see. One possible analysis is to treat the presuppositional IPF as an instance of event type anaphora. This strategy is in any case probably needed for the fake IPF in imperatives as in (33) below, where accommodation of an event token seems to be unwarranted.

(33) Prokhodite! Sadites’!
come in.IPF.IMPERATIVE sit down.IPF.IMPERATIVE
‘Come in! Sit down!’ (Analysed in Alvestad 2013)

Perhaps Alvestad’s anaphoric event type analysis could be generalized to cover other cases as well, outside the imperative. In a somewhat similar spirit, Mueller-Reichau (2011) treats the factual IPF in past tense indicatives as referring to event kinds. Despite an ontological difference and a difference in semantic types, event kinds and event types (sets of event tokens) are conceptually very similar. In this respect, Mehlig has argued in several papers for an analysis of factual IPF as type referring, most recently in Mehlig (2013). This said, it should be noted that Mueller-Reichau and Mehlig apply the event type/kind-analysis to the existential IPF rather than to the presuppositional IPF. Still, it may be possible to unify the factual IPF (but not IPF tout court!) along these lines.

7 Borik (2006) argues for a privative opposition between the two aspects, with IPF being semantically the negation of PF. Her theory is to a large extent based on the ‘perfect’-like interpretation of the existential IPF discussed in the previous section. However, the idea of a privative opposition is hard to reconcile with the fact that the differences in interpretation between PF and IPF can be extremely subtle, notably in the case of the presuppositional IPF, where PF can often be used almost interchangeably with IPF.
The second kind of analysis is the one I proposed in Grønn (2004), where I treated the factual IPF as one operator, with the following meaning (in a compositional DRT-framework):

$[[\text{factual}_{\_\text{IPF}}]] = \lambda P\lambda t. [e \mid P(e) \& e \subseteq t]$

Instead of deriving the operator in (34) from an underspecified overlap relation, I would now rather say that the imperfective is genuinely ambiguous and factual_{\_\text{IPF}} is one of several imperfective operators in Russian. The semantics in (34) gives us the same inclusion relation for existential IPF, presuppositional IPF, (and also, obviously, for PF).

Of course, the devil is in the bold face. The idea behind (34), which is formally spelled out in Grønn (2004), is that bold face discourse referents (here: e) and bold face conditions (here: e \subseteq t) are sensitive to the information structure of the VP with which factual_{\_\text{IPF}} combines through functional application. The aspect- and tenseless VP is structured into an assertoric and presuppositional part, combining insights from the structured meaning approach and the treatment of presuppositions as anaphora in DRT (van der Sandt 1992). If the presuppositional DRS of the input VP is empty, the bold face elements will end up in the assertoric DRS and we get the existential reading. On the other hand, if the presuppositional DRS is non-empty, the bold face referents and conditions will be drawn to the presuppositional DRS, resulting in the presuppositional reading.

Without going further into the merits and drawbacks of the different analyses of the presuppositional IPF in the literature, I will now propose a third way to look at this reading in analogy to definite tense from section 2, viz. as a case of definite aspect.

4. (In)definite tenses and aspects: Putting everything together

I will illustrate the current approach to (in)definite tenses and aspects with a classic example of presuppositional IPF from Čekhov, an example which every Slavic aspectologist cherishes.

(35) $V \text{ëtoj porternoj ja napisal pervoe ljubovnoe pis’mo Vere.}$

In this tavern I wrote.PF.PAST first love letter to Vera

‘In this tavern I wrote my first love letter to Vera.’

$Pisal [karandašom]_F.$

wrote.IPF.PAST with pencil

‘I wrote it [with a pencil]_F.’
Note that with a quantificational semantics ("there is an event …") for the second mention of the writing event the truth-conditions become too weak – we don’t get the event identification with the VP in the first sentence. So, what is new in the first sentence (a past time, a complete writing event, a love letter) is all definite, i.e. anaphoric, in the second sentence (that past time, that writing event, that love letter [an elided zero-argument in Russian; ‘it’ in the English translation]). The assertoric part or focus of the second sentence contains the adjunct ‘with a pencil’ – the rest is presupposed.

First we need a new, simple relational semantics for aspects in parallel to tense.8

Relational aspects
[[PF]] = λtλe. e ⊆ t
[[IPF_factual]] = λtλe. e ⊆ t
[[IPF_ongoing]] = λtλe. t ⊆ e

In addition we have two covert determiners ind and def which operate in all domains (individuals, times, events …), as spelled out earlier in (13). In the event domain, ind and def combine a discourse referent for events with a restrictor (a dynamic predicate of events) and a nucleus (a dynamic predicate of events).

Technical details aside, what is important, is that ind comes with a definedness condition saying that the discourse referent being introduced must be new in the input context, while def requires that the input context already contains the discourse referent that goes into the restrictor and nucleus. In addition, def presupposes the entire restrictor, which thus must be entailed by the input context.

A logical form for the discourse in (35) can now look like this:

(37) ind_1 PAST(N) [λ_6 [ind_2 PF(t_6) [λ_3 [ind_4 LETTER [λ_5 WROTE (e_3)(x_3)(I)]]]]].

def_1 PAST(N) [λ_{10} [def_2 [[FACTUAL_IPF(t_{10})]

[λ_7 WROTE(e_7)(it_4)(I)] [λ_8 [ind_6 PENCIL [λ_{11} WITH(e_8)(x_{11})]]]]]]

Let me try to explain informally what is going on. Consider the perfective aspect in the first sentence napisal – wrote. The event is new, let’s call it e_2, and it’s introduced by ind, hence the subscript ind_2. The semantic operator PF de-

8 Strictly speaking we need dynamic versions of these relational aspects, see Grønn & von Stechow (to appear).
notes an inclusion relation between $e_2$ and a time which we call $t_6$. For the semantic composition we must make sure that the first argument of $\text{ind}_2$ – the restrictor – is a predicate of events. We do this by saturating the temporal argument of $\text{PF}$ (later, when we apply tense, we must abstract over this argument $\lambda_{e_6}$) – so, $\text{PF}(t_6)$ denotes a set of events. The nucleus also has the right semantic type denoting a set of events $\lambda_3$ and the composition goes through.

To see why we had to saturate the temporal argument of $\text{PF}$ before combining the restrictor with $\text{ind}_2$, the following parallel from the nominal domain may be useful:

(38)  a. ? [An [uncle]] [talked to [a [member]]]
    b. [An [uncle of mine]] [talked to [a [member of our club]]]

When we are dealing with relations, such as tenses/aspects or relational nouns (‘uncle’, ‘member’), naive composition with the determiners doesn’t work. The arguments of $\text{ind/def}$ must have the type of predicates, not relations, hence we must saturate the first argument in the relation at LF (or overtly as in (38b)).

For the second sentence in discourse (35) I propose to look at the following toy paraphrase of definite tense/aspect:

(39) The t [which is before now] [[is such that the e [which is included in t and which is a writing-event] [is such that a pencil is the instrument of e]]]

Here we note that the restrictor of the definite event the e (def$_2$ in (37) above) contains not only the aspectual relation but also the writing-predicate. We can assume a principle such as ‘maximize presuppositions!’ which makes the restrictor maximally informative. If only the aspectual relation were part of the restrictor, we would not be guaranteed event identity between the event of pisal and napisal, since the aspectual relation $e \subseteq t$ of the presuppositional IPF pisal could in principle match relations introduced by other perfective predicates in the input context.

In a more elaborate dynamic framework, the meaning of the text is then the following (Grønn & von Stechow, to appear):

(40) $c + (37)$ is only defined if $1, 2, 4, 9 \notin \text{dom}(c)$. If defined:

$$ c + (37) = \{ <f,w> \mid (\exists g \in c) \ g \subseteq f \ & \ 1,2,4,9 \in \text{dom}(f) \ & \ f(1) < f(N) \ & \ \tau(f(2)) \subseteq f(1) \ & \ \text{letter}_w(f(4)) \ & \ \text{write}_w(f(2))(f(4))(f(I)) \ & \ f(2) \text{ with}_w (f(9)) \ & \ \text{pencil}_w(f(9)) \} $$
5. Conclusion and open issues

An advantage of the current approach is the conceptual simple and general picture that arises across various domains (individuals, times, events). An advantage of my approach in Grønn (2004) was that I could work with a unified format for factual IPF (making use of the so-called ‘bold face convention’). In the new theory presented here, we get instead a systematic ambiguity ±def all over the system of tenses and aspects.

For the analysis of factual IPF the two approaches are very similar. However, the new version is more general since it automatically extends to all combinations of tense and aspect. Consider for instance the second imperfective verb below which combines the inclusion relation $t \subseteq e$ (a non-complete event) with definite discourse referents:

\[(41) \text{On šël po ulice domoj, kogda po nemu byl otkryt ogon'}. \]

He walked.IP.PAST down street home when on him was opened fire
‘He was walking down the street back home, when he was hit by fire’.

\[On šël s devuškoj.\]

He walked.IP.PAST with girl
‘He was walking with a girl.’

In the earlier approach in Grønn (2004) we would have to introduce the bold face convention also for the other imperfective operators and for tense operators.

My focus in this paper has been on the semantics of tenses and aspects. I have argued for a dynamic and compositional framework, where we carefully separate the contribution of tense, aspect (and mood) in the constructions under discussion. The semantic analysis of factual IPF postulates a genuine (multiple) ambiguity for the Russian imperfective.

Many details have been left out in this paper – notably concerning the pragmatic competition between the two morphological aspects in Russian. While I believe in separating the semantic and pragmatic component in the analysis, we must ask which pragmatic factors trigger the use of the factual/fake IPF. The system outlined above shows how the imperfective can be used compositionally with a complete event interpretation. However, we haven’t really addressed the question of why the speaker should prefer the imperfective over the perfective in contexts of aspectual competition.

Alvestad (2013) and Grønn & von Stechow (to appear) introduce an aspect neutralization rule which says that definite aspects are neutralized with respect to their morphological feature, so both PF and IPF can be used with anaphoric complete events. A division of labor takes place such that IPF is used with definite events and PF is used with indefinite events in narrative progression (Grønn
A deeper motivation for the use of presuppositional IPF is therefore to block narrative progression which never occurs with complete events in the Russian imperfective. Interestingly, in west Slavic languages the division of labor is quite different since IPF can be used in narrative progression, but then IPF does not have the presuppositional/definite reading. These languages apparently do not adhere to our ‘aspect neutralization rule’ (see Alvestad (2013) for further discussion and references).

For the existential IPF, a different kind of pragmatic division of labor is observed. The size of the reference time in the aspectual relation seems to play a major role so that IPF is preferred with temporally indefinite and ‘large’ reference times (Grønn 2004). For other cases, such as the ‘two-ways’ imperfective or the counterfactual IPF the polarization of the two morphological aspects takes yet another form. Basically, what we observe again and again is that the competition between PF and the unmarked IPF leads to strengthening of certain context-sensitive pragmatic implicatures of the latter (Grønn 2007, 2008 and 2013). When these implicatures become fully conventionalized and fossilized, we are entitled to add a new semantic operator, such as the factual IPF, to our system.

Bibliography


