

# Information structure and aspectual competition

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## 1 Aspectual opposition and competition in Russian

- (1) Časov v šest' večera **poobedali**<sup>perfective</sup>. (Internet)  
We **had dinner** around six p.m..
- (2) My **obedali**<sup>imperfective</sup>, kogda u moego druga proizošel<sup>Pf</sup> pristup. (Internet)  
We **were having dinner**, when my friend had a heart attack.

The unmarked imperfective is also compatible with complete event interpretations in competition with the perfective. This puzzling use of IpF is in Slavic linguistics known as *konstatacija fakta*, the 'factual IpF':

- (3) Ty segodnja **obedal**<sup>imperfective</sup> v restorane! (Internet)  
You **had dinner** in a restaurant today!

A standard, DRT-analysis of aspectual operators:

- Pf (or IpF on its complete event interpretation)  $\Rightarrow \lambda P\lambda t[e \mid P(e), e \subseteq t]$

- (4) A: Krasivo **ukrasili**<sup>Pf</sup> elku.  
B: Kto **ukrašal**<sup>ipf?</sup>  
A: They **decorated** the Christmas tree beautifully.  
B: Who **decorated** it?

Why does speaker A choose the Pf, while speaker B prefers the IpF in referring to the same complete event of decorating the Christmas tree?

## 2 Blocking of the factual Ipf in BOT

- $F = \{Pf, Ipf\}$
- $M = \{e \subseteq t, t \subseteq e\}$
- $GEN = F \times M - \{ \langle Pf, t \subseteq e \rangle \}$
- Conditional informativity (simplified):
  - The function *inf* is inversely related to probability:
  - $inf(m/f) = \frac{1}{Prob(m/f)} - 1$

Why the processual/progressive is considered the Hauptbedeutung of the Ipf:

<i>inf</i> (m/f)	Pf	Ipf
$e \subseteq t$	$\Rightarrow 0$	1
$t \subseteq e$	$\infty$	$\Rightarrow 1$

Table 1: A bidirectional OT-tableau for Russian aspect

- The underspecified semantics of the Ipf is equally compatible with both inclusion relations, but the complete event interpretation is blocked by the strongly optimal pair  $\langle Pf, e \subseteq t \rangle$ .

### Theorem 1

Whenever a progressive/processual interpretation  $t \subseteq e$  is possible, a complete event interpretation  $e \subseteq t$  is not available for the Ipf.

- (5) Kogda pozvonil<sup>pf</sup> Boris Georgievič, my s Iroj **gotovili**<sup>ipf</sup> dokumenty.  
 When Boris Georgievič called, Ira and I **were preparing** (*not available reading*: had prepared) the documents.
- The OT-reasoning correctly predicts that the progressive interpretation is the only one available,  $\langle Ipf, t \subseteq e \rangle$  being the winner.
  - Hence, in order to express a relative past reading with a complete event interpretation in constructions like (5), the Pf must be used.

### 3 The return of the factual Ipf

Why is the factual Ipf acceptable in (4) – and also in (6) and (7)?

(6) Ty **otkryval**<sup>ipf</sup> okno?

**Did** you **open** the window? (or, rather: 'Did you have the window open?')

- Brief explanation for the "two-ways imperfective" in (6):
  - Pf grammatically encodes telicity, which is by default associated with the implicature *I* of target state validity at the evaluation time.
  - Complete event interpretations of Ipf with telic predicates are associated with the implicature  $\neg I$  ("deblocking").
- In the rest of the talk: focus on aspectual competition in (7), "the presuppositional Ipf" (Grønn 2004).

(7) V étoj porternoj ja **napisal**<sup>Pf</sup> pervoe ljubovnoe pis'mo. **Pisal**<sup>ipf</sup> [karandašom]<sub>F</sub>.  
In this tavern, I **wrote** my first love letter. I **wrote** it [in pencil]<sub>F</sub>.

- Presuppositional Ipf should be analyzed as an instance of event anaphora, cf. the DRT-treatment of presuppositions in (van der Sandt 1992).

### 4 Division of labor: presuppositional Ipf vs. assertoric Pf

There is nothing inherently "presuppositional" about Ipf, but the "presuppositional Ipf" emerges due to

- (i) the unmarked status of Ipf and
- (ii) a general preference for seeking opportunities to anaphorize (DOAP).

One way of modelling this in weak BOT:

- Incorporation of context sensitivity (here: the speaker and hearer's common ground (CG)) into the OT-reasoning.
- The "softness" of DOAP ("Don't Overlook Anaphoric Possibilities"): It is expected with a probability of 0.75 that the speaker follows DOAP.
- "Complexity of form" (Blutner 1998) is here replaced by the function "defaultness" ( $Pf \mapsto 0.1$ ;  $Ipf \mapsto 0$ ), which ensures that everything else being equal, the unmarked/default Ipf is preferred.

- **Conditional informativity:**

$$inf(m/f) =^{def} \text{defaultness}(f) + \left(\frac{1}{\text{Prob}(m/f)} - 1\right)$$

$inf(m/f); CG \models e \subseteq t$	Ip <sub>f</sub>	P <sub>f</sub>
$e \subseteq t$ (in presupposition)	$\Rightarrow \frac{1}{0.75} - 1 = 0.33$	$0.1 + (\frac{1}{0.75} - 1) = 0.43$
$e \subseteq t$ (in assertion)	$\frac{1}{0.25} - 1 = 3$	$\Rightarrow 0.1 + (\frac{1}{0.25} - 1) = 3.1$

Table 2: A weak bidirectional OT-tableau (consistency with CG; probability distribution according to DOAP)

Neither of the two aspects starts out as "presuppositional" or "assertoric",

- but weak BOT accounts for the emerging polarization whereby the factual Ip<sub>f</sub> gets its presuppositional reading
- and the division of labor allows for the speaker to reintroduce the event at the assertoric level through a perfective verb, even if the conditions hold which would allow a presupposition to be satisfied.

## 5 From the viewpoint of compositional semantics

A revised semantics for the factual Ip<sub>f</sub>, where the subscript notation encodes the presuppositional part of a complex DRS:

- Factual Ip<sub>f</sub> (preliminary version)  $\Rightarrow \lambda P \lambda t [ | P(e) ]_{[e | e \subseteq t]}$

Examples like (6) would have to be treated in terms of accommodation. BUT the factual Ip<sub>f</sub> is not accommodatable, due to theorem 2:

**Theorem 2:** (Blutner and Zeevat)

If a trigger context has simple non-triggering expression alternatives with the same meaning, it does not accommodate.

- The "presupposition" of the factual Ip<sub>f</sub> is never accommodated, since the assertoric P<sub>f</sub> is always an available alternative expression.
- Is a unified semantics for the factual Ip<sub>f</sub> possible?

## 6 A function defined over different cases

The information structure of the input determines whether the factual Ip<sub>f</sub> gets a "presuppositional" or an "assertive" interpretation.<sup>1</sup>

I represent the partitioning of the aspect- and tenseless VP as an ordered pair <B(ackground), F(ocus)> along the lines of the structured meaning approach:

- $\langle \lambda e [ | write(e) ], \lambda e [ x | Instrument(e, x), pencil(x) ] \rangle$

<sup>1</sup>I thank Kjell Johan Sæbø for his valuable comments on earlier versions of the analysis presented in this section. See also (Grønn 2005).

The background part contains presupposed material (Geurts and van der Sandt 1997). The  $\langle B, F \rangle$ -partition is therefore transformed into a complex DRS, which is input to the imperfective operator in example (7):

- $\lambda e[x \mid \text{Instrument}(e, x), \text{pencil}(x)]_{[ \mid \text{write}(e) ]}$

The factual IpF is a function defined over different cases:

- $\text{IpF}_{\text{factual}}$  (final version)  $\Rightarrow \lambda P \lambda t[e \mid P(e), e \subseteq t]$
- **The bold face convention**  
 Bold face discourse referents  $\mathbf{x} \in U_{Fun}$  and conditions  $\mathbf{Con} \in \text{Con}_{Fun}$  occurring in the translation of an operator  $Fun_{\langle a, b \rangle}$ , are ‘rewritten’ in the process of applying  $Fun$  to an argument  $Arg_{\langle a \rangle}$ . In the resulting DRS  $K_{\langle b \rangle}$ ,  
 (i) if  $K$ ’s presupposition part  $P$  is empty,  $\mathbf{x}$  and  $\mathbf{Con}$  are rewritten as  $x \in U_K$  and  $Con \in \text{Con}_K$ , respectively.  
 (ii) if  $K$ ’s presupposition part  $P$  is non-empty,  $\mathbf{x}$  and  $\mathbf{Con}$  are rewritten as  $x \in U_P$  and  $Con \in \text{Con}_P$ , respectively.

The bold face discourse referent  $\mathbf{e}$  and the bold face aspectual configuration  $\mathbf{e} \subseteq \mathbf{t}$  in the translation of IpF will be drawn to the presuppositional DRS iff the latter is non-empty.

After applying the imperfective (factual IpF) operator to its argument in (7), we end up with the following complex DRS:

- [AspectP]:  $\lambda t[x \mid \text{Instrument}(e, x), \text{pencil}(x)]_{[e \mid \text{write}(e), e \subseteq t]}$

This function applies to a covert, anaphoric temporal adverbial (‘then’):  $t_1[t_1 \mid ]$ . After functional application and presupposition composition we get:

- [TenseP]:  $[x \mid \text{Instrument}(e, x), \text{pencil}(x)]_{[e, t_1 \mid \text{write}(e), e \subseteq t_1]}$

## 7 Explaining aspectual choice in Russian

The present theory solves some puzzles in the existing literature:

- (8) A: Nado vyključit’<sup>pf</sup> svet.  
 B: # Ja ego uže **vyključal**<sup>ipf</sup>. (Mehlig 1997, 169)  
 A: You must turn off the light.  
 B: # I **have** already **turned** it off.

The restriction on the presuppositional IpF in (8) follows straightforwardly from DRT’s binding theory of presuppositions. (And a non-presuppositional factual IpF is ruled out due to the relevance of target state validity.)

## 8 Reconciling a global and a local perspective

The goal of this paper was twofold:

- (i) to show how the presuppositional Ipf emerges from a competition with the Pf, and
- (ii) to implement this information structure component into a compositional analysis of the aspectual operator.

In recent work, Blutner (2006, 11) discusses global vs. local pragmatic theories: "A global theory describes the principal forces that direct communication – it has a diachronic dimension and allows a rational foundation of conversational implicatures; a local theory describes the actual, synchronic dimension – it explains how online, incremental interpretation [...] is possible". The two approaches can coexist, since they are connected by the assumption "that the results of global optimization fossilize into a local mechanism of utterance processing".

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