On (in)definite tense and aspect in Russian

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Plot

- a **compositional** theory of tense and aspect
- a **uniform** approach to (in)definiteness in various domains
- *(in)definiteness is here rather different from Ramchand 2008*
- a **dynamic** framework
- a **bonus**: a semantic account of the general-factual Ipf (Ipf with reference to complete events – Grønn 2004)
Basic data

- (1) Кто читал роман ирландского писателя Джойса?
  who read-past-ipf novel of-Joyce?
  (existential Ipf)

- indefinite tense and indefinite aspect:
  (1’) who has at a time before now performed a reading of a novel by Joyce?
Basic data

(2) Кто спал в моей постели?
who slept-past-ipf in my bed?

definite tense and definite aspect:
(2’) who did at that time before now perform that sleeping in my bed?
Hypothesis

- In Russian, we have covert (in)definite articles in the nominal domain.
- We explore the idea that natural languages have **covert (in)definite articles in the temporal domain and event domain**.
Partee’s argument for referential tense

- (3) I didn’t turn off the stove.
- *¬∃ (too strong to be true)
- *∃¬ (trivially true)
- (4) Я спустился вниз и был шокирован: я не выключил плиту и начался большой пожар!
Partee’s conjecture (1973)

- division of labour:
  - semantic tenses (-ed ...) are anaphoric/definite/referential/presuppositional
  - temporal auxiliaries (have, will) are not anaphoric, but quantificational/indefinite (time shifters)
Heim’s presuppositional semantics

- \([\text{PAST}_i]^g\) is only defined if \(g(i) \prec \text{now}\). If defined, \([\text{PAST}_i]^g = g(i)\).
- \([\text{FUT}_i]^g\) is only defined if \(g(i) \succ \text{now}\). If defined, \([\text{FUT}_i]^g = g(i)\). (French, Russian...?)
Russian tenses

- Russian doesn’t have many shifters, hence
- tenses do double duty as referential/quantificational, i.e.,
- (in)definite tenses.
Indefinite tense in Russian

- Quasi-obligatory backward shifting with past under past in standard SOT environments:

- (5R) Ona [...] sprosila-PAST,PF, spal-PAST,IPF li on. (Tolstoy, “Anna Karenina”, RuN corpus)

- (5E) She [...] asked him if he had slept. (Garnett, “Anna Karenin”)

- indefinite, quantificational past:
  \[[[\text{Past}]] = \lambda P \lambda t' \exists t. [P(t) \& t < t']\] (NB! \(P\) is a predicate of times)
Indefinite tense in Russian (cont.)

Forward shifting under attitudes:

(6R) Ona byla nemnogo prostuzhena i skazala-PAST,PF, chto oni segodnja pobudut-FUT,PF doma. (Kurkov, “Piknik na l’du”, RuN corpus)

(6E) She had a bit of a cold, said they would be staying in for the day. (Bird, “Death and the Penguin”)

\[[Fut]\] = λPλt′∃t.[P(t) & t ≻ t′]

Indefinite tense in Russian (cont.)

- Forward shifting in TAC under past modals:
- (7R) Svad’ba dolžna byla sostojat’sja v mae, do togo, kak karbasy ujdut na jug. (literally: Wedding must PAST take-place in May, before that how ships will-go to south)
- (7G) Die Hochzeit sollte im Mai sein, bevor die Frachtschiffe nach Süden fuhren.
- (7E) The wedding would take place in May, before the cargo boats headed south.
- (Wassmo, “Dinas bok”, RuN corpus)
- See Grønn & von Stechow (2012) for analysis.
Indefinite tense in Russian (cont.)

- Forward shifting in RC:
- (8) Imenno v universitete devuška poznakomilas’-PF-PAST s Billom Klintonom, kotoryj vposledstvii stanet-PF-FUT (?budet, ?byl) ee mužem. (Internet, from a biography of Hillary Clinton)
- ‘At the university the girl got to know Bill Clinton who would later become her husband.’ (our translation).
- literally: got to know ... who will-be ... 
- See Grønn & von Stechow (2012) for analysis.
Backward shifting in non-trivial examples of factual Ipf

- (9) Redko vstretiš’ čeloveka, kotoryj čital roman Džojsa.
  *(one rarely will-meet person who [has] read-Ipf-Past novel by Joyce)*

- (10) Redko vstretiš’ čeloveka, čitavšego roman Džojsa.
  *(one rarely will-meet person [having] read-Ipf-Past-PARTICIPLE novel by Joyce)*
Kratzer says that the past (in English) is ambiguous between a referential tense and ”perfect aspect”.

The Russian future must then be ambiguous between a referential tense and, say, ”prospective aspect”.

The quantificational approach needs no such ambiguities.

But the quantificational approach cannot deal with the Partee problem and temporal anaphora.

Conclusion: Tenses are ambiguous between indefinite and definite interpretations.
Tenses as pure relations

(11)

- \[[\text{Past}]\] = \(\lambda t\lambda t'. [t \prec t']\) (relative past)
- \[[\text{Past}^*]\] = \(\lambda t. [t \prec \text{now}]\) (deictic past)
- \[[\text{Fut}]\] = \(\lambda t\lambda t'. [t \succ t']\) (relative future)
- \[[\text{Fut}^*]\] = \(\lambda t. [t \succ \text{now}]\) (deictic future)
(12) Ty segodnja obedal-PAST-IPF v restorane.
You had dinner in a restaurant today.

‘e ⊆ t’

dinner(e)

\[ t \approx \text{‘the past’ } \cap \text{ today} \]
Aspectual relations

- Same inclusion relation for Existential Ipf, Presuppositional Ipf, Pf ...
- Folklore since Klein 1995, but Klein doesn’t show how one systematically calculates the value of the reference/assertion time (the contribution of tense, temporal adverbials), nor how one systematically combines tense and aspect at the syntax-semantics interface.
A word on the pragmatics of factual Ipf

- Pragmatic competition with Pf (treated elsewhere, e.g. Grønn 2004, 2007, 2008)
- Basic idea:
- Competition of Pf and Ipf $\Rightarrow$ Strengthening of pragmatic implicatures of Ipf $\Rightarrow$ conventionalization $\Rightarrow$ semantics of factual Ipf
Numerous philosophical approaches to the analysis of existence have been proposed, each with its own unique perspective. Existential Ipf, for instance, offers a framework for understanding the nature of existence in language. The traditional approach to existential Ipf is represented by the following formula:

\[
[[\text{Pf}; \text{existential Ipf}]] = \lambda Q \lambda t. \exists e. [Q(e) \& e \subseteq t]
\]

To make this more concrete, consider the following example:

- Krifka, Kratzer, von Stechow ... etc.
- If we put everything together (by functional application):
  - I had-lunch-past-ipf today
  - \( \exists t \exists e. [t \prec \text{now} \& \text{today}(t) \& \text{lunch}(e) \& e \subseteq t] \)

While the traditional approach provides a foundational understanding of existential Ipf, it is crucial to note that this analysis is not without its critics. 

\( \text{(NB! Q is a predicate of events)} \)
What about presuppositional lpf?

(13) Я – тот солдат, который спал в твоём доме.  
(I am the soldier who slept-lpf-Past in your house.)

Fake lpf with a prospective reference time:

(14) Можно войти? Входите! (Alvestad 2013) 
(May I come-in-PF? Come-in-IPF-Imperative!)}
Presuppositional Ipf (cont.)

- The standard example from Čechov ... Forsyth:
- (15R) V etoj porternoj ja napisal-PAST-PF pervoe ljubovnoe pis’mo Vere. Pisal-PAST-IPF [karandašom]_{F}.
- (15E) In this tavern I wrote my first love letter to Vera. I wrote it with a pencil.
- With the quantificational semantics the truth-conditions become too weak – we don’t get the event identification.
Presuppositional Ipf (cont.)

- (15) Pisal-PAST-IPF \([\text{karandašom}]_F\).
- Analysis in Grønn 2004.
- partitioning of the aspect- and tenseless VP as an ordered pair \(<\text{B(ackground)}, \text{F(ocus)}>\) (structured meaning/complex DRS).
- the subscript DRS represents the presupposed/backgrounded material:
  - \(\lambda e[x \mid \text{Instrument}(e, x), \text{pencil}(x)]\)[| write(e)]
  - \(\text{Ip}f_{\text{factual}} \Rightarrow \lambda P \lambda t[e \mid P(e), e \subseteq t]\)
Presuppositional Ipf (cont.)

The bold face convention: Bold face discourse referents $x \in U_\alpha$ and conditions $\text{Con} \in \text{Con}_\alpha$ occurring in the translation of an operator $\alpha_{<a,b>}$, are ‘rewritten’ in the process of applying $\alpha$ to an argument $\beta_{<a>}$. In the resulting DRS $K_{<b>}$,

(i) if $K$’s presupposition part $P$ is empty, $x$ and $\text{Con}$ are rewritten as $x \in U_K$ and $\text{Con} \in \text{Con}_K$, respectively.

(ii) if $K$’s presupposition part $P$ is non-empty, $x$ and $\text{Con}$ are rewritten as $x \in U_P$ and $\text{Con} \in \text{Con}_P$, respectively.
Presuppositional lpf (cont.)

- applying \( \text{lpf}_{\text{ factual}} \) to the VP:
- \( \lambda t [x \mid \text{Instrument}(e, x), \text{pencil}(x)][e \mid \text{write}(e), e \subseteq t] \)
Aspects as pure relations

- $[[Pf]] = \lambda t.\lambda e. [e \subseteq t]$
- $[[\text{factual Ipf}]] = \lambda t.\lambda e. [e \subseteq t]$
- $[[\text{progressive Ipf}]] = \lambda t.\lambda e. [t \subseteq e]$
A covert determiner ind in the tense/event domain.
A covert determiner def in the tense/event domain.
The determiners have a uniform format combining a restrictor (predicate of times/events) with a nucleus (predicate of times/events).

ind/def have the type of (dynamic) generalized quantifiers.

ind introduces a new discourse marker in the context.
def introduces an old discourse marker in the context, and the restriction is entirely presupposed (i.e., entailed by the input context).
Toy paraphrases of definite tense/aspect

- The past time was the time of P (ignoring aspect)
- The complete event was the event of Q (ignoring tense)
The new framework

Toy paraphrases of definite tense/aspect

- 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]]]
Naïve composition doesn’t work

- The arguments of ind/def must have the type of predicates, not relations:
- (16) ? [An [uncle]] [talked to [a [member]]]
- (16’) [An [uncle of mine]] [talked to [a [member of our club]]]
Heim’s theory of PRO

- The first argument of tense is the temporal centre TPRO, which is moved for type reasons leaving a trace of type i.
- The first argument of aspect is the reference time TPRO, which is moved for type reasons leaving a trace of type i.

"def1" = discourse marker 1, definite (time)
"def2" = discourse marker 2, definite (event)
"ind3" = discourse marker 3, indefinite (individual)

LF after TPRO-movement:
\[ \text{def1}[\text{Past}^\ast] \left[ \lambda t \right. \left[ \text{def2}[\lambda e. e \subseteq t \& \lambda e. \text{write}(e)] \right. \left. \left[ \lambda e. \text{ind3} \left[ \lambda x. \text{pencil}(x) \right] \left[ \lambda x. \text{Instrument}(e, x) \right] \right] \right] \approx \left[ x_3 \mid \text{Instrument}(e_2, x_3), \text{pencil}(x_3) \right]_{t_1, e_2 \mid t_1 < \text{now} \& \text{write}(e_2), e_2 \subseteq t_1} \]
Conclusions

- Advantage of the second approach presented here: unified tense-aspect system (with covert ind/def).
- For the factual Ipf the approaches are similar, but the second approach is more general and automatically extends to all combinations of tense and aspect:

  (17) Он шел по улице домой, когда по нему был открыт огонь. Он шел с девушкой.
  
  *(he walked-Ipf-Past (was walking) on his way home when he was shot. He walked-Ipf-Past (was walking) with a girl).*

- In the former approach we would have to introduce the bold face convention also for the progressive operator and for tense operators.
A few references

A few references (cont.)