

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?
(presuppositional Ipf) – Grønn 2004.
- 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.
- $*\neg\exists$ (too strong to be true)
- $*\exists\neg$ (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

- $[[PAST_i]]^g$ is only defined if $g(i) \prec now$.
If defined, $[[PAST_i]]^g = g(i)$.
- $[[FUT_i]]^g$ is only defined if $g(i) \succ now$.
If defined, $[[FUT_i]]^g = g(i)$. (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:
[[*Past*]] = $\lambda P \lambda t' \exists t. [P(t) \& t \prec t']$ (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")
- $[[Fut]] = \lambda P \lambda t' \exists t. [P(t) \& t \succ t']$
- See Grønn & von Stechow (2010) for analysis.

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 poznamomas'-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 vstreliš' človeka, kotoryj **čital** roman Džojsa.
(one rarely will-meet person who [has] read-Ipf-Past novel by Joyce)
- (10) Redko vstreliš' človeka, **čitavšego** roman Džojsa.
(one rarely will-meet person [having] read-Ipf-Past-PARTICIPLE novel by Joyce)

Interim conclusion

- 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.

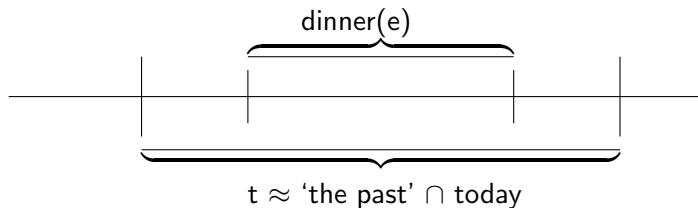
Tenses as pure relations

- (11)
- $[[\text{Past}]] = \lambda t' \lambda t. [t < t']$ (relative past)
- $[[\text{Past}^*]] = \lambda t. [t < \text{now}]$ (deictic past)
- $[[\text{Fut}]] = \lambda t' \lambda t. [t > t']$ (relative future)
- $[[\text{Fut}^*]] = \lambda t. [t > \text{now}]$ (deictic future)

Aspectual relations. An example

(12) Ty segodnja obedal-PAST-IPF v restorane.
You had dinner in a restaurant today.

' $e \subseteq t$ '



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.
- First compositional analysis in Krifka 1989.

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

Existential Ipf

- $[[\text{Pf}; \text{existential Ipf}]] = \lambda Q \lambda t. \exists e. [Q(e) \ \& \ e \subseteq t]$
(NB! Q is a predicate of events)
- Krifka, Kratzer, von Stechow ... etc.
- If we put everything together (by functional application):
- I had-lunch-past-ipf today
- $\exists t \exists e. [t \prec \text{now} \ \& \ \text{today}(t) \ \& \ \text{lunch}(e) \ \& \ e \subseteq t]$

What about presuppositional Ipf?

- (13) Я – тот солдат, который **спал** в твоём доме.
(*I am the soldier who slept-Ipf-Past in your house.*)
- Fake Ipf 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 Čekhov ... 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 [karandašom]_F.
- Analysis in Grønn 2004.
- partitioning of the aspect- and tenseless VP as an ordered pair $\langle B(\text{ackground}), F(\text{ocus}) \rangle$ (structured meaning/complex DRS).
- the subscript DRS represents the presupposed/backgrounded material:
- $\lambda e[x \mid \text{Instrument}(e, x), \text{pencil}(x)] [\mid \text{write}(e)]$
- $\text{Ipf}_{\text{factual}} \Rightarrow \lambda P \lambda t [\mathbf{e} \mid P(e), \mathbf{e} \subseteq \mathbf{t}]$

Presuppositional Ipf (cont.)

The bold face convention: Bold face discourse referents $\mathbf{x} \in U_\alpha$ and conditions $\mathbf{Con} \in \text{Con}_\alpha$ occurring in the translation of an operator $\alpha_{\langle a, b \rangle}$, are 'rewritten' in the process of applying α to an argument $\beta_{\langle a \rangle}$. 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.

Presuppositional Ipf (cont.)

- applying $\text{Ipf}_{\text{factual}}$ 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

- $[[\text{Pf}]] = \lambda t. \lambda e. [e \subseteq t]$
- $[[\text{factual Ipf}]] = \lambda t \lambda e. [e \subseteq t]$
- $[[\text{progressive Ipf}]] = \lambda t \lambda e. [t \subseteq e]$

Decomposition of tense and aspect

- 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)

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 .

Presuppositional ipf in dynamic semantics (very simplified)

- Grønn & von Stechow (to appear), Grønn (to appear) ... Muskens (1996), Beaver (2001).
- "def1" = discourse marker 1, definite (time)
- "def2" = discourse marker 2, definite (event)
- "ind3" = discourse marker 3, indefinite (individual)
- LF after TPRO-movement:
- $\text{def1}[\text{Past}^*] [\lambda t [\text{def2}[\lambda e. e \subseteq t \ \& \ \lambda e. \text{write}(e)] [\lambda e. \text{ind3} [\lambda x. \text{pencil}(x)] [\lambda x. \text{Instrument}(e, x)]]]]]$
- \approx
- $[x_3 \mid \text{Instrument}(e_2, x_3), \text{pencil}(x_3)] [t_1, e_2 \mid t_1 \prec \text{now} \ \& \ \text{write}(e_2), e_2 \subseteq t_1]$

Conclusions

- Advantage of the approach in Grønn (2004): unified format for factual Ipf.
- 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.

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