

Aspect and temporal definiteness

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Cross-Slavic variation and temporal definiteness

Points of departure

- 1 Cross-Slavic differences in the use of aspect in various contexts: Russian vs. Czech
 - Is this a semantic or pragmatic difference?
 - How can we formalise this difference?
- 2 [NOT TODAY, but see Gehrke (submitted)] The requirements for using (I)PFVs in certain past tense contexts in Russian hold for finite but not necessarily for non-finite verb forms (not so in Czech).

There are further differences between Czech and Russian with non-finite forms (participles, nominalisations).

 - What is the role of finiteness in the Russian aspect system?
 - Why does it (presumably) not play a role in Czech?
- 3 What does definiteness have to do with it all?

Background assumptions on definiteness & some recaps

Definiteness in the nominal domain

- Different theoretical approaches
 - Uniqueness: only one (+ contextual restriction)
Maximality for plural definites
 - Familiarity
 - Determinacy
- Different types of definites
 - Uniqueness/maximality in the situation vs. world knowledge
 - Anaphoric definites: referent in the common ground
 - Predicative definites
 - Weak vs. strong definites
 - ...
- Different types of indefinites ... specificity ...

Heim (2011)

Semantics of (in)definiteness (not necessarily of *the/a*):

- (1) a. $[[+DEF]] = \lambda P : \exists x \forall y [MAX(P)(y) \leftrightarrow x = y]. \iota x. MAX(P)(x)$
 b. $[[-DEF]] = \lambda P. \lambda Q. \exists x [P(x) \wedge Q(x)]$

- Indefinites and definites form a scale; indefinites are logically weaker
- In definite contexts the indefinite article cannot be used due to an anti-uniqueness implication with indefinites (competition with definites + maximise presupposition)

Coppock and Beaver (2015)

Definite morphology vs. determinate/indeterminate interpretation

- Definite descriptions are predicative (type $\langle e, t \rangle$), presupposing uniqueness but not existence (“Weak Fregean”)

Point of departure: Definites in predicative position (2)

- (2)
- a. The king of France is the greatest French soldier.
 - b. Scott is (not) the only author of *Waverly*.

- Existential import through type-shifting
- Definite descriptions can have both determinate and indeterminate readings
 - Determinate: Denoting an individual (type e by IOTA-shift)
 - Indeterminate: Functioning as an existential quantifier (type $\langle \langle e, t \rangle, t \rangle$ by EX-shift)

Grønn and von Stechow (2016); Grønn (2015)

- **Parallels between events, times** and the semantics of **bare nominals** in articleless languages (e.g. Russian)
 - Tenses and aspects are relational predicates; verbs/VPs are predicates
 - Further information about times and events (e.g. adverbials): added via predicate modification
 - **Covert definite and indefinite operators** turn them into dynamic generalised quantifiers (anaphoric to a previous referent, maximally presupposing given information, or introducing a new referent)
- **Tenses**
 - Relations between reference time and speech time or some other time
 - covertly, on top: definite or indefinite reference time
- **Aspects**
 - Relations between event time and reference time
 - covertly, on top: definite or indefinite event
- **Russian IPFV forms** have either IPFV or PFV semantics (“fake” IPFV)

Recall: The (general-)factual IPFV

(Maslov 1959)

- ① **Existential** (3) (from Grønn 2004) (see also Padučeva 1996)

Paraphrase: *There was/is etc. (at least) one event of this type.*

(e.g. Mehlig 2001, 2013; Mueller-Reichau 2013, 2015; Mueller-Reichau and Gehrke 2015)

- (3) Ne bylo somnenij, što ja prežde **vstrečal** ee.
not was.NEU doubt.PL.GEN that I before met.SI her
'There was no doubt that I had met her before.'

- ② **Presuppositional/actional** (4) (example: Zaliznjak and Šmelev 2000, terms: Grønn 2004/Padučeva 1996)

Paraphrase: **The** *(already mentioned or contextually retrievable) event was/is etc. such and such.*

- (4) Zimnij Dvorec **stroil** Rastrelli.
winter-.ACC palace.ACC built.IPFV Rastrelli
'It was Rastrelli who built the Winter Palace.'

(information structural cues: Padučeva 1996; Grønn 2004, 2015; Borik and Gehrke 2018)

Grønn (2015)

- (5)
- $[[\text{PFV}]] = \lambda t \lambda e. e \subseteq t$
 - $[[\text{IPFV}_{\text{ongoing}}]] = \lambda t \lambda e. t \subseteq e$
 - $[[\text{IPFV}_{\text{factual}}]] = \lambda t \lambda e. e \subseteq t$ “Fake” IPFV

+ covertly, on top: **definite or indefinite event**

e.g. Definite event with presuppositional IPFV (+ definite reference time)

e.g. Indefinite event with existential IPFV (+ indefinite reference time)

- **Aspectual competition** between PFV (5-a) and “fake” IPFV (5-c)
(**pragmatic account**)
 - Indefinite complete events \rightarrow PFV
(guarantees narrative progression: “be orderly”)
 - Presuppositional IPFVs: To avoid narrative progression
Aspect neutralisation rule (see also Grønn and von Stechow 2016):
 When a semantically PFV aspect is definite/anaphoric, it is morphologically neutralised to IPFV.
 - Existential IPFVs when the reference time is too large for the perfective semantics to be informative

Recall idea/proposal in Gehrke (2022, to appear)

There is no “fake” IPFV.

- Existential IPFVs

Related to iterative/habitual readings; cf. Padučeva (1996)

- Presuppositional IPFVs

Related to the process reading: Zooming in on a narrower reference time (Gehrke 2023)

Cross-Slavic variation in aspect

Aspect semantics vs. pragmatics

- Often (more or less implicit) assumption:
Uniform aspect semantics in Slavic languages
- Parallel corpus studies (e.g. Dübbers 2015):
No one-to-one correspondence in aspect usage

Q: Are these differences semantic or pragmatic?

Q: Which other factors play a role?

Differences in aspect usage

e.g. Dickey (2000): Differences in 10 Slavic languages

- Contexts: habituality, general-factual, historic present, instructions and commentaries, IPFV in sequences of events, ingressivity, deverbal nouns

Dickey's analysis: West-east isogloss

- **East: Prototype Russian** (also: Belarusian, Bulgarian, Ukrainian)
 - PFV: Temporal definiteness (in the sense of Leinonen 1982)
 - IPFV: Qualitative temporal indefiniteness
- **West: Prototype Czech** (also: Sorbian, Slovak, Slovenian)
 - PFV: Totality
 - IPFV: Quantitative temporal indefiniteness
- **Peripheral types:**
 - Polish (closer to the Western type)
 - Serbo-Croatian [BCMS] (closer to the Eastern type)

(see also Dickey 2015, 2018; Fortuin and Kamphuis 2015, 2018)

Cross-Slavic differences in aspect usage

- Further contexts and literature:
 - **Ingressivity** (Ivančev 1961; Berger 2013)
 - **Imperative** (Dokulil 1948; Benacchio 2010; Alvestad 2013; von Waldenfels 2014)
 - **Negation** (Dickey and Kresin 2009; von Waldenfels 2014)
 - **Present tense** (Bondarko 1958, 1959; Křížková 1955, 1958; Širokova 1963; Petrušina 1978, 1983, 1998, 2000; Fortuin and Kamphuis 2015)
 - **Motion events** (Eckert 1991; Gehrke 2002, 2022)
 - various **prefixes and suffixes** (Nübler 1992; Petrušina 2000; Dickey 2001, 2005, 2011; Dickey and Hutcheson 2003)
 - **Nominalisations** (Dickey 2000; Biskup 2023; Gehrke submitted)
 - **General-factual contexts** (Gehrke 2002, 2022; Alvestad 2013; Dübbers 2015; Mueller-Reichau 2018; Klimek-Jankowska 2022)

Russian vs. Czech

- Theses particularly about this:
 - Eckert (1984): Single vs. multiple events, motion events, spoken vs. written, present, general-factual, negation, imperative (PhD)
 - Stunová (1993): Multiple events, sequences of events (PhD)
 - Gehrke (2002): Single vs. habitual events, general-factual (MA) (small-scale parallel corpus study)
 - Dübbers (2015): Multiple events, general-factual (PhD) (large-scale corpus studies)

	<i>Russian</i>	<i>Czech</i>
Single events in sequences of events	PFV	IPFV, PFV
Multiple / habitual events	IPFV	IPFV, PFV; frequentatives
General-factuals	IPFV	IPFV, PFV

Findings in Gehrke (2002)

(see also Gehrke 2022)

- **Single events:** Relevance of verb classes
 - States/activities: Czech IPFV vs. Russian PFV
 - Accomplishments/achievements: both PFV (or Czech IPFV to dwell on duration)
- **Multiple events / habituality:**
 - Marked on the verb form in Russian only (IPFV)
 - Aspect usage in Czech more or less like with single events (in other words: IPFV appears for the same reasons it appears with single events: process, longer duration, stativity etc.)

ex. Single events in sequence of events

- (6) a. On **pomolčal** nekotoroe vremja v smjatenii, **vsmatrivajas'**
 he PO-was-silent.PFV some time in confusion.ACC in-watch.AP.SI
 v lunu, plyvuščuju za rešetkoj, i **zagovoril**: [...]
 in moon.ACC swimming.ACC behind bars.INSTR and ZA-spoke.PFV
 'He stayed silent for some time in confusion, watching the moon that
 swam behind the bars, and (then) said: ...' (RU MM130/109)
- b. Chvíli zaraženě **mlčel**, **sledoval** plující
 while.ACC confused.ADV was-silent.IPFV followed.IPFV swimming.ACC
 měsíc za mříží, a pak **se zeptal**: [...]
 moon.ACC behind bars.INSTR and then REFL inquired.PFV
 'For a while he was silent in a confused manner, followed the swimming
 moon behind the bars, and then inquired: ...' (CZ translation)

- **RU**:
 - Sequence of two foregrounded single events: finite PFV past
 - Backgrounded simultaneous event: non-finite IPFV adverbial participle
- **CZ**: Finite IPFV or PFV past tense (depending on the verb type & duration)

ex. Single events in sequence of events

- (7) Když **přišlo** pozdní jaro, když **bylo** léto, když se
 when came.PFV late.NOM spring.NOM when was.IPFV summer.NOM when REFL
setmělo a **byla** sobota, **přešel** jsem osvětlený
 got-dark.PFV and was.IPFV Saturday.NOM across-went.PFV AUX.1SG illuminated.ACC
 most, pak **zahnul** k mlýnu a podle Staré rybnárny jsem
 bridge.ACC then off-bent.PFV to mill.DAT and past old.ACC fisherman.ACC AUX.1SG
kráčel kolem plotu farní zahrady. [CZ]
 straddled.IPFV around fence.GEN churchyard.GEN
- (8) Kogda vesnja **približalas'** k koncu, kogda **bylo** uže počti leto,
 wenn spring approached.SI to end.DAT, when was.IPFV already almost summer.NOM
odnaždy v subbotnie sumerki ja **perešel** osveščennyj
 once in Saturday-.PL.ACC twilights.ACC I across-went.PFV illuminated.ACC
 most, a potom **svernul** k mel'nice i **zašagal** mimo starogo
 bridge.ACC and then off-bent.PFV to mill.DAT and ZA-straddled.PFV past old.GEN
 'Rybnogo podvor'ja' vdol' ogrady cerkovnogo sada. [RU]
 'Fisherman's-Inn'.GEN along fence.GEN churchyard.GEN

(Translation of the CZ original: 'When late spring arrived, when it was summer, when it got dark and it was Saturday, I crossed the illuminated bridge, then turned to the mill and past the Old Fisherman and strolled around the fence of the churchyard.')

ex. Habitual/iterative sequence of events


- (9) Balodis služil povarom. Glavnoj ego zabotoj byla prodovol'stvennaja kladovaja. Tam xranilis' salo, džem, muka. Ključī Balodis celyj den' nosil v rukax.
'Balodis worked as a cook. His main task was the storage room. There they kept bacon, jam, flour. As for the keys [to this room], Balodis kept them in his hands all day.'

- a. **Zasypaja**, **privjazyval** ix špagatom k svoemu detorodnomu organu. **Éto ne pomogalo**.
asleep-falling.AP.SI to-tied.SI them string.INSTR to his.DAT childbearing.DAT organ.DAT that not helped.SI
Nočnaja smena dvaždy **otvjazyvvala** ključī i **vorovala** produkty. Daže muka **byla s"edena** ...
night shift twice un-tied.SI keys and stole.IPFV foods even flour was.IPFV eaten.PPP.PFV
'Before going to bed he tied them to his childbearing organ. That did not help. The night shift untied the keys twice and stole the food. Even the flour was eaten ...' (RU Dov 49f./29)
- b. **Než šel spát**, **přivazoval** si je provázkem k přirození. **Nepomáhalo** to.
before went.DET.IPFV sleep.INF.IPFV to-tied.SI REFL them string.INSTR to sex organ NEG-helped.SI that
Noční směně se **dvakrát podařilo** klíče **odvázat** a potraviny si **nakrást**.
night-.DAT shift.DAT REFL twice succeeded.PFV keys untie.INF.PFV and foods REFL steal.INF.PFV
Dokonce i mouku **sežrali** ...
even also flour.ACC up-scoffed.3PL.PFV ...
'Before he went to sleep he tied them with a string to his sex organ. That did not help. The night shift succeeded twice in untying the keys and stealing the food. They even scoffed up the flour ...' (CZ translation)

- **RU**: Finite IPFV forms because of iterative sequence of events / non-finite forms for simultaneous events
- **CZ**: Mix of IPFV (native speakers: took some time) and PFV (sequence of events)

ex. Habitual sequence of events

- (10) Mnoгие из 30 тысяч механических экипажей, **бегавшие** в 28-м году
 many.NOM of 30 thousand mechanical wagons run.PAP.DET.IPFV in 28th year
 по Москве, **прокакивали** по улице Гержена, **шурша**
 along Moscow.PREP through-jumped.SI along street.PREP Gercen.GEN rustle.AP.IPFV
 по гладким торцам, и через каждую минуту с гулом и скрежетом
 over smooth pavement and through every minute with roaring and crunching
скатывался с Гержена к Моховой трамвай 16, 22, 48 или
 down-rolled.REFL.SI from Gercen.GEN to Moxovaja.DAT tram.NOM 16, 22, 48 or
 53-го маршрута. [RU]
 53th-GEN line.GEN
- (11) Mnohé z třiceti tisíc drožek, které v osmadvacátém
 many.NOM out thirty.GEN thousand.GEN carriages.GEN which in 28th
jezdily по Москвѣ, **прокльзлы** Герженову улици а **засвищѣлы**
 drove.INDET.IPFV along Moscow through-slid.PFV Gercen.ADJ street and swished.PFV
 на гладкѣм дѣвѣнѣм длаждѣнї; каждоу минутоу се с ѣрнотѣм а
 on smooth wooden pavement every.ACC minute.ACC REFL with rattling and
 скрїпѣнїем **пѣрхнала** од Герженову улици к Мѣховѣ трамвай чїсло
 crunching past-chased.PFV from Gercen street to Měchov tram.NOM number
 16, 22, 48 nebo 53. [CZ]
 16, 22, 48 or 53

(Translation of the RU original: 'Many of the 30.000 mechanical wagons, running in Moscow in 1928, sped through Gercen street, rustling over the smooth pavement, and every minute Tram lines 16, 22, 48 or 53 rolled down from Gercen street to Moxovaja street, roaring and crunching.') 

Existential-factual

- Dickey (2000) (about general-factual in general): in CZ not with achievements (12) (from Dickey 2000, 99 & 101; my glosses & translations)

- (12) a. Jako dítě jsem jednou {spadl / *padal} z toho stromu.
 as child AUX1SG once fell.PFV fell.IPFV off this tree
 'As a child, I once fell from this tree.' CZ
- b. Ja pomnju, v detstve odnaždy ja {upal / padal} s ètogo
 I remember in childhood once I fell.PFV fell.IPFV off this
 dereva.
 tree
 'I remember, in my childhood, I once fell from this tree.' RU

NB Mueller-Reichau (2018): not possible in CZ with obligatorily unique events

Existential-factual

- Dickey (2000): In CZ not when the end/result is mentioned/focussed (13)

(from Dickey 2000, 117; my glosses & translations)

- (13) a. Ty kogda-nibud' ***pročital** / **čital** /
 you.NOM ever read.PST.PFV read.PST.IPFV
dočityval ètu knihu ot načala do konca?
 COMPL.read.PST.SI this.ACC book.ACC from beginning to end
 'Have you ever read this book from the beginning to the end?' (RU)
- b. **Přečetl** / ***Četl** jsi někdy vůbec tu
 read.PST.PFV read.PST.IPFV AUX2SG sometime überhaupt this.AKK
 celou knihu?
 whole.ACC book.ACC
 'Have you ever read this whole book at all?' (CZ)

Presuppositional-factual

- Eckert (1984) (about general-factual in general): CZ only with (what she calls) *psát-verbs* [~ incremental theme verbs] (14)

(from Eckert 1984, 104; my glosses & translations)

- (14) a. {**Psal** / **napsal**} to tužkou.
 wrote.IPFV wrote.PFV that pencil.INSTR
 'He wrote that with a pencil.' (CZ)
- b. On {**pisal** / **napsal**} èto karandašom.
 he.NOM wrote.IPFV wrote.PFV that pencil.INSTR
 'He wrote that with a pencil.' (RU)

Ideas about factual contexts in Gehrke (2002)

(Further examples from the literature and from the parallel corpus)

Hypothesis about **factuals in CZ** (further elaborated in Gehrke 2022, to appear)

- Only **presuppositional**-factual IPFVs (“actional”) in CZ
(Gehrke 2022: Relation to the process reading of IPFVs)
 - No **existential**-factual IPFVs in CZ
 - In RU, the use of IPFVs in existential contexts is conditioned by potential iterativity (see above).
 - CZ does not mark iterativity on the verb form (see above).
- The use of IPFVs in existential contexts is not motivated by the existential context itself, but there are other reasons (e.g. state, process, longer duration, etc.).

Aspect and definiteness: Some proposals to account for cross-Slavic aspectual differences

Recall Dickey's (2000) west-east isogloss

- **East: Prototype Russian** (also: Belarusian, Bulgarian, Ukrainian)
 - PFV: Temporal definiteness
“situation [is] uniquely locatable in a context, contiguous in time to qualitatively different states of affairs” (Dickey 2000, 19f.)
 - IPFV: Qualitative temporal indefiniteness
“non-assignment of a situation to a single, unique point in time” (Dickey 2000, 108)
- **West: Prototype Czech** (also: Sorbian, Slovak, Slovenian)
 - PFV: Totality
 - IPFV: Quantitative temporal indefiniteness
“assignability of a situation to several points in time” (Dickey 2000, 107)
- **Peripheral types:**
 - Polish (closer to the Western type)
 - Serbo-Croatian [BCMS] (closer to the Eastern type)

(not formally worked out)

Formal proposals of cross-Slavic aspect

- Alvestad (2013)
 - Various Slavic languages: Imperatives as instances of **factual IPFVs** (“fake” IPFVs)
 - Building on Grønn (2004, 2015); Grønn and von Stechow (2010)
- Mueller-Reichau (2018): Russian, Czech, Polish: **factual IPFV vs. PFV**
- Klimek-Jankowska (2022)
 - Russian, Polish, Czech: **Factual IPFVs**
 - Building on Ramchand (2004, 2008)
- Mueller-Reichau (to appear)
 - Sorbian (vs. Russian, Czech): **Iterativity, events in progress**
 - Building on Stunová (1993); Klein (1994); Krifka (1998); Grønn (2004); Zwarts (2005); Filip (2008) ...

All these proposals resort to some notion of definiteness.

Alvestad (2013)

- **Cross-Slavic variation in imperatives**, choice of IPFV (Alvestad 2013, 312):
 Russian (60%) > Belarusian (59%) > Ukrainian (58%) > Bulgarian (48%) > Polish (47%) > Serbian, Croatian (45%) > Macedonian (44%) > Upper Sorbian (43%) > Slovak (33%) > Czech (31%) > Slovene (29%)

(15) The Aspect Neutralization Rule (Alvestad 2013, 230)

- When a semantically perfective Aspect is definite/anaphoric, it is morphologically neutralized to IPFV. This holds irrespective of whether the Tense is indefinite or definite. When this rule is adhered to, we see an instance of the presuppositional type fake IPFV.
- When a semantically perfective Aspect is indefinite AND the Tense is indefinite, (the extended future in the case of imperatives), the Aspect is morphologically neutralized to IPFV. When this rule is adhered to, we see an instance of the existential type fake IPFV.

- **Pragmatic “account” of the variation** (quote from Alvestad 2013, 312)
Slavic languages adhere to the Aspect Neutralization Rule to varying degrees [...] Russian as the most “law-abiding” language.

Alvestad (2013)

- PFV is always indefinite (i.e. involves an indefinite event)
- IPFV can be both

Fig. 5.1 Possible constellations of Tense and Aspect in Slavic

<p style="text-align: right;">1</p> <p>uniq-def T & ind A</p> <p>Prediction: Morphological PF</p>	<p style="text-align: right;">2</p> <p>ind T & ind A</p> <p>Prediction: Aspect neutralization, existential fake IPF</p>
<p style="text-align: right;">3</p> <p><u>def T</u> & <u>def A</u></p> <p>Prediction: Aspect neutralization, <u>presuppositional fake IPF</u></p>	<p style="text-align: right;">4</p> <p>ind T & <u>def A</u></p> <p>Prediction: Aspect neutralization, <u>presuppositional fake IPF</u></p>

(Alvestad 2013, 229)

Questions raised Alvestad (and Grønn (&vS))

- How is the system with covert (in)definite operators constrained? (G&vS)
- Why is the reference time with presuppositional IPFVs necessarily definite? (G&vS) (for A: can be either)
In Gehrke (2023) it is indefinite (see above and previous slides)
- Why do PFVs always involve indefinite events? (A)
In Mueller-Reichau (2018) PFV events are always definite/unique (see next slide)
- Why is only Russian “law-abiding”, what exactly triggers the choice of one or the other aspect in languages that show more optionality (e.g. Czech)? (A)

Mueller-Reichau (2018)

- Semantic account of cross-Slavic differences
 - Factual PFV in Polish, Czech vs. **factual IPFV** in Russian
 - IPFV semantics: underspecified relation between event time and reference time (building on Klein 1995; Grønn 2004)
 - Differences lie in the semantics of the PFV: **Event uniqueness** + additional requirement of **target state validity** in Russian

(16) Polish, Czech

- $\llbracket \text{IPFV} \rrbracket = \lambda P \lambda t \exists e [P(e) \wedge e \circ t]$
- $\llbracket \text{PFV} \rrbracket = \lambda P \lambda t \exists e [P(e) \wedge e \subseteq t \wedge \neg \exists e' [P(e') \wedge e' \neq e]]$

(17) Russian

- $\llbracket \text{IPFV} \rrbracket = \lambda P \lambda t \exists e [P(e) \wedge e \circ t]$
- $\llbracket \text{PFV} \rrbracket = \lambda P \lambda t \exists e [P(e) \wedge e \subseteq t \wedge \neg \exists e' [P(e') \wedge e' \neq e] \wedge f_{\text{END}}(t) \subseteq f_{\text{TARGET}}(e)]$

Questions raised by Mueller-Reichau (2018)

- Only accomplishments and achievements have “target states” (in the sense of, e.g., Parsons 1990; Kratzer 2004), but there are also PFV activities/states (e.g. delimitatives, ingressives, inchoatives).
- Gehrke (2022): Czech PFVs do not require event uniqueness, so maybe this is the crucial difference? Proposal in an earlier version of the paper:
(+ background assumption of “true” IPFV semantics)

(18) Czech

- $[[\text{IPFV}]] = \lambda P \lambda t \exists e [P(e) \wedge t \subseteq \tau(e)]$
- $[[\text{PFV}]] = \lambda P \lambda t \exists e [P(e) \wedge \tau(e) \subseteq t]$

(19) Russian

- $[[\text{IPFV}]] = \lambda P \lambda t \exists e [P(e) \wedge t \subseteq \tau(e)]$
- $[[\text{PFV}]] = \lambda P \lambda t \iota e [P(e) \wedge \tau(e) \subseteq t]$

Mueller-Reichau (to appear)

- Colloquial upper Sorbian (CUS) (examples from Breu 2000)

- Like CZ, unlike RU: PFV possible with iterativity/habituality (20)

(20) Wón je husto jenož jednu knihu předał.
 he AUX often only one book sold.PFV
 'He often sold only one book.'

- Unlike CZ, RU: PFV can also express ongoing reading (21)

(21) Jurij jo rune jen text šeložit, hdyž sym ja nutř šišoł.
 Jurij AUX now one text translated.PFV when AUX I inside IN.went.PFV
 'Jurij was translating a text when I entered.'

Mueller-Reichau (to appear)

- Building on the notion of **event paths** (Krifka 1998; Zwarts 2005; Gehrke 2008)
 - IPFV semantics in all three languages: Overlap of E and R
(as in Mueller-Reichau 2018)
 - PFV semantics: in all three languages IPFV semantics
 - + determinate event path (unidimensional, directed, bounded)
 - + CZ/RU: R has to include the final moment of E
 - + RU: target state-validity

- (22)
- $[[PFV_{CUS}]] = \lambda P \lambda t \exists e. P(e) \wedge DET(P) \wedge t \circ \tau(e)$
 - $[[PFV_{CZ}]] = \lambda P \lambda t \exists e. P(e) \wedge DET(P) \wedge t \circ \tau(e) \wedge f_{end}(\tau(e)) \subseteq t$
 - $[[PFV_{RU}]] = \lambda P \lambda t \exists e. P(e) \wedge DET(P) \wedge t \circ \tau(e) \wedge f_{end}(\tau(e)) \subseteq t \wedge f_{end}(\tau(e)) \subseteq f_{target}(e)$

Questions raised by Mueller-Reichau (to appear)

- Uniqueness problem solved, but the problem of target state-validity remains.
- **New problem:** PFVs do not always include the end of E but can also signal the beginning of E (e.g. ingressives) – possible not a problem for CZ (no ingressives), but a problem for RU.
- **New (potential) problem:** Determinate event paths have been used for the analysis of telicity. (e.g. Krifka 1998; Zwarts 2005; Gehrke 2008)
→ Is Aspect in CUS an inner-aspectual distinction (and therefore quite different from CZ, RU, and possibly also other Slavic languages)?

Klimek-Jankowska (2022)

- Questionnaires: Aspect in factual contexts in CZ, Pol., RU
- Existential
 - Neutral (EX-NEU)
 - Resultative (EX-RES)
- Presuppositional: 2x2-differentiation
 - strongly vs. weakly resultative
 - Focus on initiator vs. on result

Problems already here:

- differentiation with the presuppositional contexts is not clear from her examples
- her results in this respect are not statistically significant

→ I will set this differentiation aside.

- Significant results
 - RU uses more IPFV than Pol. / Pol. more than CZ
 - all three: more IPFV with EX-NEU than with EX-RES
 - only CZ & Pol. allow PFV with non-specific temporal adverbials

Klimek-Jankowska (2022)

Building on Ramchand (2004, 2008):

- **First phase** [\sim vP/VP] introduces an event variable
- **Aspect** introduces a time variable, which is an instant: The event variable and the temporal variable are related by the temporal trace function $\tau(e)$.
 - **PFV events introduce a definite reference time**
(R04: “a single unique moment” / R08: “a specific moment”)
e.g. with procP/resP-syntax [\sim accomplishments]: reference time must be within both, so it has to be the transition
 - **IPFV events introduce an indefinite reference time** (an arbitrary moment within the temporal trace of the event)
e.g. with procP/resP-syntax: arbitrary time within the process
- **Tense** binds the time variable and relates it to the speech time
- K-J's idea: **Two kinds of (in)definiteness of R**
 - Micro-level: wrt to the temporal trace of an event
 - Macro-level: wrt to the utterance time

Klimek-Jankowska (2020) (as discussed in K-J 2022)

- With **complex events**, the placement of the temporal variable wrt to the temporal trace of an event depends on whether the focus is more on the initiation, process, or result.
 - **Focus on result**: focus on transition, definiteness wrt temporal trace
 - **Focus on initiation or process**: arbitrary point, indefiniteness wrt temporal trace
- With **presuppositional IPFVs**, the result is presupposed: the resultee is part of the conversation, event completion is inferred
- **Existential IPFVs** with *once*, *ever*, etc.:
 - Indefiniteness wrt the utterance time may encourage language users to place the temporal variable at an arbitrary point within the temporal trace → Indefiniteness wrt runtime of the event

Klimek-Jankowska (2020) (as discussed in K-J 2022)

- **Aspectual competition** in existential contexts, depending on the speaker's choice:
 - Definite wrt temporal trace (at AspP) → PFV
 - Indefinite wrt utterance time (at TP) → IPFV
- Competition for lexical insertion at the CP level
- **Variation within Polish in existential contexts:**
 - Western Polish: Preference to choose definiteness wrt temporal trace/AspP → More PFV
 - Eastern Polish: preference to choose definiteness wrt utterance time/TP → More IPFV

Klimek-Jankowska (2022)

- Temporal (in)definiteness at the macro-level should be understood in terms of **temporal specificity**.
- **EXIST-NEU**: Temporally indefinite at macro-level, underspecified for definiteness at the microlevel in the case of accomplishments
 - **Cross-Slavic variation**:
 - **Western Polish, Czech**: Preference for definiteness wrt temporal trace/AspP (in some cases obligatory, e.g. achievements)
 - ACHs are instantaneous; the time variable can only be located at a unique time instant at which the change-of-state happens.
 - **Eastern Polish, Russian**: Preference for definiteness wrt utterance time/TP (RU: in some cases obligatory, e.g. with *ever*)
 - The Russian (but not the Polish, Czech) PFV has to be anchored to a specific temporal location on the timeline.
- **PRES**: Relation to earlier discourse, pragmatically specific → PFV also possible in Russian, but more so in Czech, Polish (again: speaker's choice)

Questions raised by Klimek-Jankowska (2022)

- Again: If it is a matter of speakers' choice, **what regulates the choice?**
- If it is a matter of speakers' choice, it seems to be a **pragmatic** account, but at various points it is stated that in some cases the use of a particular aspect is obligatory.
→ Shouldn't this also be reflected in the **semantics** of (I)PFV?
- Are we dealing with **definiteness** or with **specificity**?
- If it is true that ...
with presuppositional IPFVs, the result is presupposed: the resultee is part of the conversation, event completion is inferred
... doesn't that come close to **accomplishments under a process reading** (event completion is not inferred, but it is equally not in focus)? How is the presuppositional IPFV different then? → Gehrke (2022)

Back to definiteness in the nominal domain: Bare nominals

Recall: Grønn and von Stechow (2016) draw parallels between events and times and the semantics of bare nominals; predicates with covert (in)definite operators on top

Bare nominals in articleless languages

- Dayal (2004)
 - Bare nominals are either property-denoting (predicates) or kind-denoting (arguments).
 - Definite when singular; plurals can get an existential interpretation via derived kind predication (reference to instances of the kind)

[BUT: Hindi has an indef.sg. article – could be a markedness issue]
- Geist (2010a): Bare nominals are ambiguous, but topics (~ sentence-initial bare nominals) are definite.
- Šimík and Demian (2020); Seres and Borik (2021), following Heim (2011)
 - Bare nominals are always indefinite (existential).
 - Due to the absence of competition with definites they can also occur in definite contexts in which uniqueness (familiarity/maximality) is satisfied in the common ground.

Seres and Borik (2021, 340): “The perceived definiteness in Russian is analysed as a pragmatic effect (not as a result of a covert type-shift), which has the following sources: ontological uniqueness, topicality, and familiarity/anaphoricity.”

In lieu of a conclusion

If we want to fully exploit **parallels to definiteness in the nominal domain** when building a theory of aspect (or tense), we also need to exploit the full spectrum.

- Different **types** of definites but also of indefinites (see Haspelmath 1997, and literature building on this; see also appendix)
- Relation to **specificity**
- Contribution of temporal adverbials that can also be marked for (non)-specificity or similar readings (e.g. RU *kogda-libo/nibud'* and similar expressions in other Slavic languages; see appendix)
- ...

So far we only scratched the surface.

What if

- **Aspects, tenses, VPs, NPs:** Predicates (Coppock and Beaver 2015; Grønn and von Stechow 2016)
 - Additional information (e.g. adverbials): added via predicate modification
 - **Existential closure** at the relevant syntactic positions
 - All events and times are indefinite, just like bare nominals (Heim 2011; Šimík and Demian 2020; Seres and Borik 2021)
 - Definiteness only due to context but no iota shift (or similar)
 - There is **no “fake” IPFV**. (Gehrke 2022, 2023)
 - Presuppositional IPFVs involve IPFV semantics (reference time is included in the event time) + discourse
 - Existential IPFV: Potential iterativity (RU, but not CZ)
- Requires further exploration of the role of discourse (see also Altshuler 2012).
- Do we nevertheless still have **uniqueness** or similar presuppositions for RU PFVs?

What if (cont.)

- It is possible that certain tenses and aspects (in some languages) come with **uniqueness (or other) presuppositions**, leading to **competition** with other aspects/tenses, similar to the competition that Heim (2011) and others assume for the nominal domain.
 - This is where various approaches in the literature could come into play.
 - (See e.g. Zhao 2022 for recent work on the competition between perfect and past in various languages)
- **Further questions one could explore** (Gehrke submitted)
 - Is there a difference in past tense semantics between, e.g., Russian and Czech? (inspired by Borik 2018)
 - Does Aspect operate on different levels / is it closer connected to Tense in Russian than in Czech? (e.g. Gehrke 2017; Klimek-Jankowska 2022)
 - Can we gain insights from differences in the diachronic development of aspects and tenses in these languages?
- **What about other Slavic languages?**

Thanks!

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Claim in Klimek-Jankowska (2022)

Potential problem for uniqueness account (Mueller-Reichau 2018) or potential iterativity account (Gehrke 2023) of existential IPFVs:

(23) Russian (after Klimek-Jankowska 2022, 25)

Éto byla vešč' lučšaja iz vsech veščej, kotorye ja *kogda-libo*
 this was thing best of all things which I when-LIBO
sozdal.
 created.PFV.MASC.SG

'It was the best thing of all the things I had *ever* created.'

Not sure this is a problem: Difference between *kogda-libo* and *kogda-nibud'*?

My hunch: You cannot replace *kogda-libo* in (23) by *kogda-nibud'*.
 (confirmed by Daria Seres, p.c., but I should ask more speakers)

-nibud' vs. the rest

- Geist (2010b) (similar observations in other works, e.g. Martí and Ionin 2019)
 - -to: epistemic specific, always wide scope in opaque contexts
 - koe-: epistemic non-specific, wide scope or pair-list readings wrt operators
 - -nibud': only possible in opaque contexts, narrow scope
- Pereltsvaig (2008): Necessity of the -nibud' series to covary within the scope of an operator or quantifier (see also Yanovich 2005)
 - Temporal domain: Covariation in the scope of a generic operator, or similar? → IPFV (in RU)

-nibud' vs. -libo

(setting aside stylistic differences that are also always noted)

- Ward (1977)
 - Asked speakers: Are they interchangeable? Answer: only in the direction *-nibud'* → *-libo*, but not necessarily in the other direction; + meaning change (subtle), when interchangeable
 - *-libo*: presupposes/implies the existence of a set
“There exists or can exist a set of *x*'s but it is not asserted that there exists a particular member of that set such that that member can or does participate in the event.” (p. 465)
 - *-nibud'*: “leaves the existence of a set unmarked” (p. 467)
- Veyrenc (1964)
 - are not always interchangeable
 - Contexts for *-nibud'*: interrogative, imperative, subordinated to a hypothesis, hypothetical (~ *quelque*) / situation d'hypothèse
 - Contexts for *-libo*: negative, 2nd term in comparatives, (~ *n'importe qu-*, n-word) / situation d'antithèse

Different types of indefinites

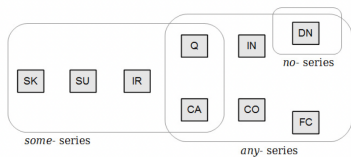
Functions of indefinite pronouns in Haspelmath (1997, 52):

specific	known to speaker	
	unknown to speaker	
non-specific	irrealis context	
	negative polarity	conditionals
		questions
		standard of comparison
		indirect negation
		direct negation
free choice		

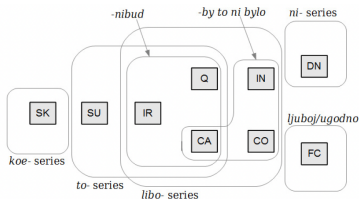
FIG. 3.3. *The main functional distinctions*

Different types of indefinites

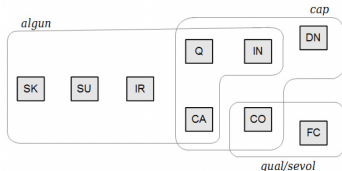
Implicational maps from Haspelmath (1997, 65-69) (as illustrated in Richtarcikova 2013, 8):



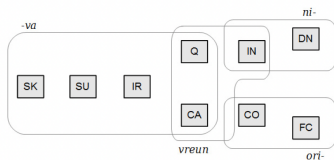
(a) English



(b) Russian



(c) Catalan



(d) Romanian

SK: specific known / SU: specific unknown / IR: irrealis / Q: questions / CA: conditional antecedents / CO: comparative / IN: indirect negation / DN: direct negation / FC: free choice