Aspect and temporal definiteness

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Outer Aspect & Tense

Some cross-linguistic observations

- Where **Imperfective** plays a role:
    - Imperfective (e.g. Slavic)
    - Imperfect (e.g. Bulgarian, Ancient Greek)
      e.g. French imparfait, Spanish imperfecto
    - Progressive (e.g. English, Spanish)

- Where **Perfective** plays a role:
    - Perfective (e.g. Slavic)
    - Aorist (e.g. Bulgarian, Ancient Greek)
      e.g. French passé simple, Spanish indefinido
    - [some literature: English Non-Progressive / Simple Past]

- Where **Perfect** (form: auxiliary + past participle) plays a role:
    - English (Past, Present, Future) perfect
    - Spanish perfecto ...
    - German Perfekt ...
    - French passé composé ...

  Note again: Perfective ≠ Perfect

Distinction between form and meaning

(+ terminological mess)

e.g. Russian imperfective forms can be used to refer to completed events, which is usually associated with a "perfective" meaning.

- "General-factual" use of the IPFV
  (Sometimes best translated with a Perfect into English)

e.g. French passé simple is only used in written texts (at most)
→ replaced by the passé composé ("aorist drift"; see e.g. Schaden 2012)

- Passé composé (formally a perfect) can express perfective meanings.

(Similar in some Spanish varieties; e.g. Schwenter & Torres Cacoullos 2008; Howe 2009)

- Reverse situation in other Spanish varieties: Perfecto is replaced by indefinido, which then expresses both perfective and perfect meanings.

- In South German varieties: Almost exclusive use of Present Perfect
  → functions like a Simple Past
    (Past Perfect still has more or less the same "perfect" uses as in English; sometimes also double perfects: 'I have had seen that')

...

Form and meaning

- Typical imperfective meanings:
    - In-process (e.g. English PROG, Russian IPFV)
    - Habituality (e.g. Russian IPFV, but not English PROG)

    (Generic statements in English are incompatible with PROG)

- Issues of "markedness" and competition:
    - English only has forms for IPFV meaning (PROG) → Should we treat non-PROG forms as PFV? (My take: No)
    - Russian IPFV can often appear in contexts where also the PFV can appear, but not vice versa → Is the (Russ.) IPFV "unmarked", or is it sometimes even "fake"? (My take: No)
        - → Russian "marks" IPFV on telic VPs, PFV on atelic/variable VPs.
    - In the absence of (I)PFV forms and a present perfect-simple past contrast, e.g. South German:
      Present perfect can express all three meanings

    ...

Tense and Aspect

- Reichenbach (1947):
    - E(vent Time), R(eference Time), S(peech Time)
    - Aspects: Relation between E and R
    - Tenses: Relation between S and R

- Reformulation in terms of temporal intervals, rather than points

    e.g. Klein (1994, 1995):
    - Situation Time (TSit / T-SIT)
    - Assertion Time (T-AST; 1995) / Topic Time (TT; 1994)
    - Utterance Time (TU)

Klein (1994, 1995)

- Tenses:
  - Present: TU INCL T-AST
  - Past: TU AFTER T-AST
  - Future: TU BEFORE T-AST

- Aspects:
  - Imperfective: T-AST INCL T-SIT
  - Perfective: T-AST AT T-SIT
  - Perfect: T-AST AFTER T-SIT
  - Prospective: T-AST BEFORE T-SIT

(1)   When I got home yesterday, Mary called and said she <u>would arrive</u> soon.

Event semantic implementation

e.g. Paslawska & von Stechow (2003):

(2) a. Perfective:
$$\text{INCLUDES} = \lambda P.\lambda t.\exists e.\tau(e) \subseteq t \& P(e), P \text{ of type } vt$$
b. Perfect:
$$\text{POST} = \lambda P.\lambda t.\exists e.\tau(e) < t \& P(e)$$
c. Imperfective:
$$\text{INCLUDED} = \lambda P.\lambda t.\exists e.t \subseteq \tau(e) \& P(e)$$

- $\exists e$: Existential quantification over the event variable (∼ indefinite event)
- $\tau(e)$: temporal trace of the event (see also Krifka 1998)
  ∼ event time (Klein's T-SIT)
- t ∼ reference time (Klein's T-AST)
- (This could further be modalised, to avoid the imperfective paradox.)

Analogies between tenses and (pro)nouns

- English Simple Past: What is the right analysis?
    - Quantificational (existential quantification over the reference time, which is before the speech time)
    - Pronominal-deictic (e.g. Partee 1973)
    - Anaphoric definite vs. unique definite (e.g. Zhao 2022)

- Partee (1973): Some structural analogies between tenses and pronouns in English (see also Partee 1984)

    (3)   I didn't turn off the stove.

    see also Kratzer (1998): More structural analogies between pronouns and tenses ...
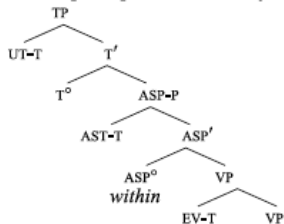
Demirdache & Uribe-Etxebarria (2014)

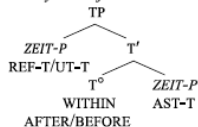Syntactic implementation   (building on Demirdache & Uribe-Etxebarria 2000)

(see also Zagona 1990; Stowell 1995)

General architecture:

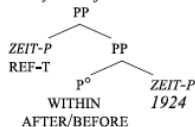Parallel between Tense, Aspect, temporal adverbials:

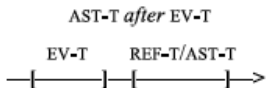a. *Syntax of tense*

b. *Syntax of aspect*
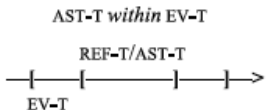
c. *Syntax of time adverbs*

Demirdache & Uribe-Etxebarria (2014)

Aspects:

a. *Retrospective*

AST-T *after* EV-T

EV-T   REF-T/AST-T
⊢——⊣——⊢——————⊣——→

b. *Progressive*

AST-T *within* EV-T

REF-T/AST-T
⊢——⊣——————⊣——⊣——→
EV-T

c. *Prospective*

AST-T *before* EV-T

REF-T/AST-T   EV-T
⊢——————⊣——⊣——————⊣——→

Tenses:

a. *Past*

UT-T *after* AST-T

AST-T   REF-T/UT-T
⊢——⊣——⊢——————⊣——→

b. *Present*

UT-T *within* AST-T

REF-T/UT-T
⊢——⊣——————⊣——⊣——→
AST-T

c. *Future*

UT-T *before* AST-T

REF-T/UT-T   AST-T
⊢——————⊣——⊣——————⊣——→
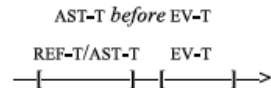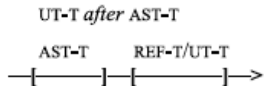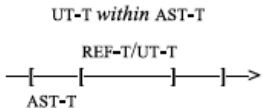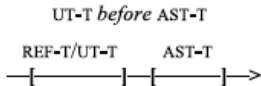
Demirdache & Uribe-Etxebarria (2014)

- Including French/Spanish (im)perfective past
  - Imparfait / Imperfecto
  - Passé (simple or composé) / Indefinido
  - $\rightarrow$ Do not express (BEFORE/WITHIN/AFTER) relations between E and R

- Instead: Temporal anaphora between E and R, resolved via either
  - Binding $\rightarrow$ Imperfective,
  - or coreference/covaluation $\rightarrow$ Perfective.

  (building on Reinhart 2000)

Binding vs. coreference/covaluation

(Reinhart 2000)

(4) a. Amina$_i$ [t_i loves her father]
     b. Amina λx [x loves y's father]
     c. Amina λx [x loves x's father]   binding
     d. Amina λx [x loves y's father]
         (y/her $=$ Amina)   coreference/covaluation

(5) a. Only Amina$_i$ [t_i loves her father]
     b. Only Amina λx [x loves y's father]
     c. Only Amina λx [x loves x's father]   binding
     d. Only Amina λx [x loves y's father]
         (y/her $=$ Amina)   coreference/covaluation

Back to Demirdache & Uribe-Etxebarria (2014)

- Coreference/covaluation → Perfective
  - E and R are assigned the same semantic value
  → The maximal time interval defining the running time of the described event
  - (E is already stored as a discourse referent)

  for *Amina cried*$_{PFV}$:

  Temporal coreference/covaluation:

  a.

  ```
                    ASP-P
                   /      \
          REF-T/AST-T      ASP'
                          /     \
                       ASP°      VP
                                /    \
                             EV-T     VP
                                   CRY (AMINA)
  ```
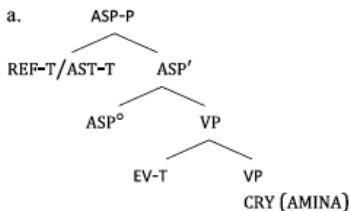
  b. AST-T = EV-T

  ```
       AST-T        UT-T
    ──[///////]───────|────────>
       EV-T
  ```
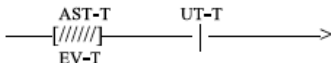
Back to Demirdache & Uribe-Etxebarria (2014)
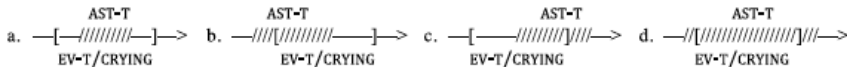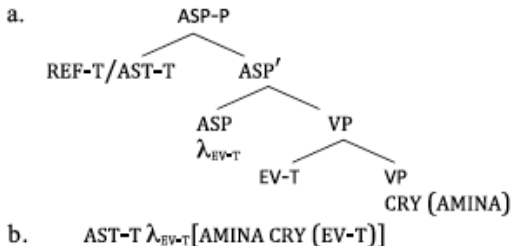
- Binding → Imperfective
  - temporal overlap between E and R

  for *Amina cried$_{IPFV}$*:

  Temporal binding

  a.

  b.   AST-T $\lambda_{EV\text{-}T}$[AMINA CRY (EV-T)]

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

- Draw 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 reference event

The English Progressive

- Recall:
  - Not good with [most] states [exception: interval / dynamic states]
  - Not so good with achievements, unless there is additive coercion (which adds a preparatory process)
  - Imperfective paradox with accomplishments
  - Only expresses the process meaning, never habituality

Incompatibility of PROG with states

- e.g. Katz (1995, 2000, et seq.):
  - PROG maps properties of events onto properties of times
    - → PROG can only apply once
  - States: properties of times, not of events (cf. Maienborn 2007)
    - → States are incompatible with PROG
- Many other approaches:
  - States also have event arguments (e.g. Landman 2000; Parsons 2000; Mittwoch 2005)
  - PROG requires input with "stages" → states and achievements are not good inputs (e.g. Landman 1992; Rothstein 2004)

Recall: The imperfective paradox (Dowty 1979)

(6)   with atelic predicates: no paradox

    a.   Carla was standing in the corner.   STA
           → Carla stood in the corner.

    b.   Branko was sleeping.   ACT
           → Branko slept.

(7)   with telic predicates: paradox

    a.   Vanja was crossing the road.   ACC
           ↛ Vanja crossed the road.

    b.   Dunja was reaching the summit.   ACH
           ↛ Dunja reached the summit.

(8)   Vanja was crossing the road when a truck hit him.

Two kinds of solutions

- ACC VP extensions contain completed and incompleted events (Parsons 1990)
    - Incomplete objects with verbs of creation
    - Bare ACC VPs only pick out complete events (Zucchi 1999)
- Modal semantics of PROG (e.g. Dowty 1979; Landman 1992; Portner 1998)
    - → Truth in inertia worlds (Dowty 1979, 148):

(9)   Inertia Worlds: are exactly like the given world up to the time in question and in which the future course of events after this time develops in ways most compatible with the past course of events.
      $\text{Inr}(I, w) =$ set of inertia worlds for w and interval I.

(10)   [Prog ϕ] is true at $< I, w >$ iff for some interval I' s.th. $I \subset I'$ and I is not a final subinterval for I', and for all w' such that $w' \in \text{Inr}(I, w)$, ϕ is true at $< I', w' >$.

(recall "subinterval property" in Bennett & Partee 1972)

Some problems with Dowty's inertia worlds

(e.g. Vlach 1981; Asher 1992; Landman 1992; Bonomi 1997; Portner 1998)

(11)   #Mary was wiping out the Roman Army.
  → Completed event should be plausible/reasonable.

(12)   Vanja was crossing the road ...
          ... when a truck hit him.
  → Why is the trajectory of the truck not part of the equation?
      • The bus was travelling down the road in I as well.
      • But somehow we ignore this oncoming bus when we utter the first part in (12).
  → What can we ignore and what is relevant?
      • Relevance of the type of event described
      • Relevance of the perspective
      • (Default semantics in Asher 1992)
      • (Closeness relation among worlds, Landman 1992)
      • ...   (see Portner 2011, for general discussion)

e.g. Landman (1992)

- PROG relates events:

(13)   Mary was building a house.

    a.   *build a house* $\rightsquigarrow$
        $\lambda x.\lambda e.\exists y[\textbf{house}(y) \wedge \textbf{build}(e) \wedge \text{AGENT}(e) = x \wedge \text{THEME}(e) = y]$

    b.   *ing*(VP) $\rightsquigarrow \lambda x.\lambda e.\text{PROG}(e, \text{VP}(x))$

    c.   *Mary was building a house* $\rightsquigarrow \exists e'.t(e') <$ now
        $\wedge \text{PROG}(e'.\lambda e \exists y[\textbf{house}(y) \wedge \textbf{build}(e) \wedge \text{AGENT}(e) = m \wedge \text{THEME}(e) = y])$

- Events can have parts and stages (more specific than parts).
  - Process stages
  - Planning stages
- Continuation branches

e.g. Altshuler (2012): PROG vs. Russian IPFV

- building on Landman (1992), except for (iv):

(14) a. $\text{PROG} \rightsquigarrow \lambda P \lambda e' \exists e \exists w [\text{STAGE}(e', e, w^*, w.P)]$

  b. $[[\text{STAGE}(e', e, w^*, w.P)]]^{M,g} = 1$ iff (i)-(iv) holds:

   (i)   the history of $g(w)$ is the same as the history of $g(w*)$ up to and including $\tau(g(e'))$

   (ii) $g(w)$ is a reasonable option for $g(e')$ in $g(w^*)$

   (iii) $[[P]]^{M,g}(e, w) = 1$

   (iv) $g(e') \sqsubset g(e)$

- Russian IPFV: Difference only in the last conjunct:

(15) a. $\text{IPFV}_{RUSS} \rightsquigarrow \lambda P \lambda e' \exists e \exists w [\text{STAGE}(e', e, w^*, w.P)]$

  b. $[[\text{STAGE}(e', e, w^*, w.P)]]^{M,g} = 1$ iff (i)-(iv) holds:

   (i)   the history of $g(w)$ is the same as the history of $g(w*)$ up to and including $\tau(g(e'))$

   (ii) $g(w)$ is a reasonable option for $g(e')$ in $g(w^*)$

   (iii) $[[P]]^{M,g}(e, w) = 1$

   (iv) $g(e') \sqsubseteq g(e)$

PROG vs. (more general) IPFV

- Semantic approaches
  - Unified meaning with modal semantics: Different IPFV meanings due to different choices of modal accessibility relation (e.g. Cipria & Roberts 2000; Arregui et al. 2014)
  - PROG requires singular events, HAB plural events, more general IPFV can apply to either (e.g. Ferreira 2005, 2016) (cp. Bonomi 1997)
  - Deo (2009, 2015):
    - PROG: phenomenal inquiries (What is the world like right now?)
    - IPFV: structural inquiries (What is the world like in general?)
    - Common diachronic change: PROG-to-IPFV shift ...

- Syntactic approaches
  - Distinct, phonologically null operators for different IPFV meanings (Hacquard 2006)
  - ...

(see Portner 2011, for general discussion)

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