The Perfect ‘Boundedness Bias’ as Syntactic Feature Licensing

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Overview of Talk

• The perfect combines with different lower aspects to generate different readings (Iatridou et al. 2001)

• However, the perfect is ‘biased’ toward bounded aspect (perfective, telic) and against unbounded aspect (imperfective, atelic)

• “Boundedness bias” = licensing of [bounded] feature

• [+bounded] perfect does not license [-bounded] aspect
  • [-bounded] aspect: either prohibited, or needs overt marking
Characteristics and Uses of the Perfect

• The perfect has a constellation of related characteristics
  • Anteriority
  • Present Relevance
  • Result State (of event)

• The perfect has several uses involving these characteristics (McCawley 1971, Comrie 1976)
  • Resultative or stative: result state of past event holds at present
    • “I have lost my glasses!”
Characteristics and Uses of the Perfect

- **Existential** or experiential: subject holds *present experience* of *past* event
  - “I have eaten a century egg”
- **Universal** or persistent situation: event starting in *past* persists to *present*
  - “I have been studying at USC since 2011”
- **Recent past** or ‘hot news’: *recently completed* event has *present relevance*
  - “Elvis has left the building!”
Perfect Time Span


• PTS: right boundary (RB) = reference time ($t_{\text{Ref}}$); left boundary (LB) set by adverbial (e.g., “since 2011”) or context.
  
  PTS: \[ \text{LB} \quad \text{RB} = t_{\text{Ref}} \]

• Version of Extended Now (McCoard 1978): present relevance (RB = $t_{\text{Ref}}$) + anteriority (extends left = before $t_{\text{Ref}}$).
  
  • Result state requires extra mechanism (Pancheva 2003).
PTS + Aspect: U-Perfect

- Viewpoint aspect (Smith 1991) relates situation time to PTS
- Imperfective: situation time includes PTS = event persists from LB through RB ($t_{\text{Ref}}$) = Universal (U-)Perfect
  - “I have been studying at USC since 2011”
    - PTS: 2011  
    - Event: studying
PTS + Aspect: E-Perfect

• Perfective: situation time is included in PTS = event occurs before RB ($t_{\text{Ref}}$) = **Existential (E-)Perfect**
  • “I have eaten a century egg”
    PTS: __________________ $t_{\text{Ref}}$ = Present
    Event: (eating) ———
PTS + Aspect: R-Perfect

- **Resultative (R-)Perfect** = resultative Viewpoint (Pancheva 2003) + telic Situation (telos of event = in PTS; target state extends to $t_{\text{Ref}}$)
  
  - “I have lost my glasses”
    
    PTS: \[ \overbrace{\text{losing} \cdot \text{being lost}}^\text{Event} \quad t_{\text{Ref}} = \text{Present} \]

- Resultative Viewpoint seemingly unattested without Perfect

- Compare **Result State** theory (e.g., Parsons 1990)
  
  - Easily accounts for R-Perfect
  
  - Difficulty with U-Perfect (“have been studying” = no result state)
Boundedness Bias

• PTS theory incorrectly predicts PTS should combine equally well with all viewpoint aspects

• “Boundedness Bias”: U-Perfects (Imperfective = unbounded) less common than E-Perfects (Perfective = bounded) or R-Perfects (Resultative + Telic = bounded)

• “… there are some languages … where the perfect is restricted to perfective aspect, while there are apparently none where the perfect is restricted to imperfective aspect” (Comrie 1976: 63)
Boundedness Bias: U-Perfect

• Many languages do not have a U-Perfect
  • Niuean (below), (Modern) Greek
    *Kua gagao agaia a Tom tali mai ia Tesema
    PERF sick still ABS Tom since DIR1 ABS December
    ‘Tom has been sick since December.’ (Matthewson 2013)

• No language has a U-Perfect but no E- or R-Perfect (cf. Brugger 1998 for Portuguese)
Boundedness Bias: U-Perfect

• E- or R-Perfect = ‘default’ perfect reading in many languages

• U-Perfect needs overt marking
  • English: U-Perfect requires overt progressive morphology or a durative adverbial (even though imperfective can be unmarked)
    • Unmarked: “he has danced” – ✓ E-Perfect # U-Perfect
    • Progressive (Marked): “he has been dancing” – ✓ U-Perfect
    • Durative Adverbial: “he has danced since 6 o’clock” – ✓ U-Perfect

• In fact, Iatridou et al (2001) claim that U-Perfests are impossible without such overt marking
Boundedness Bias: Telic Shift

• **Telic** situation aspect required by perfect in some languages (in addition to R-Perfects)
  • Compare similar effect of perfective Viewpoint

• Perfect can shift **stative** predicates to **inchoatives**
  • Saisiyat (below), Niuean

    Ataw ‘ayaeh ila
    Ataw sick PERF
    ‘Ataw has fallen sick.’

    (Guekguezian 2014)
Boundedness Bias: Telic Shift

• Perfect can shift otherwise **atelic** predicates to **telic**
  • Saisiyat (below)

  Ataw  r<om>ae’oe: ila  ka  pinobaeh.  #Okay  il-‘amet-i:
  Ataw  <AF>drink  PERF  KA  wine  not  drink-finish-DEP
  ‘Ataw has drunk up the wine. #It is not finished.’ (Guekguezian 2014)

• Cf. perfective: no completive reading (‘drink the wine’ = **atelic**)

  Ataw  ina  r<om>ae’oe:  ka  pinobaeh.  Okay  il-‘amet-i:
  Ataw  PFV  <AF>drink  KA  wine  not  drink-finish-DEP
  ‘Ataw drank the wine. It is not finished.’ (Guekguezian 2014)
Boundedness Bias

• Perfect shows bias toward \textit{bounded} aspects (perfective, telic), against \textit{unbounded} aspects (imperfective, atelic)

• \textit{E- and R-perfects} preferred; \textit{U-perfect} dispreferred

• \textit{Unbounded} aspects = either cannot occur or must be overtly marked
# Boundedness Bias

<table>
<thead>
<tr>
<th>Viewpoint Aspect</th>
<th>Situation Aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attested:</strong> <strong>Bounded</strong> = default; <strong>Unbounded</strong> = marked</td>
<td>All Perfects</td>
</tr>
<tr>
<td>English, Bulgarian, Saisiyat</td>
<td>English, Bulgarian</td>
</tr>
<tr>
<td><strong>Attested</strong> (No <strong>Unbounded</strong>)</td>
<td>No U-Perfect</td>
</tr>
<tr>
<td>Niuean, Greek</td>
<td>Saisiyat, Niuean, Greek</td>
</tr>
<tr>
<td><strong>Unattested!</strong> (No <strong>Bounded</strong> OR <strong>Bounded</strong> = marked)</td>
<td>Only U-Perfect</td>
</tr>
<tr>
<td>NONE!</td>
<td>NONE!</td>
</tr>
</tbody>
</table>
Accounting for Bias

- Difficulty of ‘Bias’: U-Perfect = possible, but E- and R-Perfests = preferred
- PTS theory = too permissive (no bias against U-Perfect)
- Result State theory = too restrictive (U-Perfect unexpected)
Accounting for Bias

• Option: Bias built into **semantics** of Perfect
  • Perfect 1 can combine with all aspects
  • Perfect 2 can only combine with **bounded** aspects
  • Languages vary between Perfect 1 and Perfect 2

• Liability: no uniform semantics for Perfect
Accounting for Bias

• Claim: Bias due to **syntactic** feature licensing
  • Perfect = [+bounded]; licenses [+bounded] aspect but not [-bounded] aspect
    • [bounded] feature = syntactic; semantics determines value

• Languages vary in licensing of [bounded] feature
  • Option 1: no [-bounded] aspect allowed with Perfect
  • Option 2: [-bounded] aspect must be licensed by overt marking

• Uniform semantics of perfect: PTS
Ingredients of Analysis

• Temporal/aspectual heads relate Z(eit)Ps (Zagona 1990, Stowell 1993)
  • Tense head (T₀): relates lower ZP (t_{Ref}) and higher ZP (t_{Eval} = Evaluation Time)
  • Viewpoint head (View₀): relates lower ZP (t_{Sit} = Situation Time) and higher ZP (t_{Ref}) (Demirdache and Uribe-Etxebarria 2000)
• Proposal: Sit₀ head introduces t_{Sit} ZP (= run time of event)
Ingredients of Analysis: the Perfect

• Perfect = Head (Perf₀) + ZP
  • Perf₀ relates lower ZP (tₚᵣₑᶠ₁) to higher ZP (tₚᵣₑᶠ₂)
  • Right edge of tₚᵣₑᶠ₁ (interval) coincides with tₚᵣₑᶠ₂ (point)
    \[ t_{\text{Ref}2} : \text{Perf}_0 \]
    \[ t_{\text{Ref}1} : \]

• Viewpoint aspect relates tᵣₑᶠ and tᵣₑᶠ₁
• Tense relates tᵣₑᶠ₂ and tₑᵥᵃˡ
[bounded] Feature

- [bounded] feature determined by semantics
  - May relate to quantization/sub-interval property
- Head = [+bounded] iff higher ZP “bounds” lower ZP
  - X “bounds” Y if (part of) X corresponds to an edge of Y
- Head = [+bounded] iff introduces ZP with a “boundary”
  - X is a “boundary” of Y if X is a point at the edge of Y
[bounded] Feature

• [+bounded] heads
  • **Perfect**: $t_{\text{Ref}_2}$ bounds right edge of $t_{\text{Ref}_1}$
  • **Perfective**: $t_{\text{Ref}_1}$ bounds both edges of $t_{\text{Sit}}$
  • **Telic**: $t_{\text{Sit}}$ has boundary (telos) at edge of interval (state or process)

• [-bounded] heads
  • **Imperfective**: $t_{\text{Ref}_1}$ does not bound any edge of $t_{\text{Sit}}$
  • **Atelic**: $t_{\text{Sit}}$ has no boundary (telos), only interval (state or homogenous process)
Licensing [bounded] Feature

• Perfect (Perf₀) is [+bounded] → licenses [+bounded] View₀ (perfective), Sit₀ (telic)
• [-bounded] aspect either needs overt marking to be licensed, or cannot appear at all
  • Overt [-bounded] View₀ morphology (progressive, imperfective) licenses [-bounded] Sit₀ (state, activity)
Licensing [bounded] Feature

• Option 1: [-bounded] cannot occur below [+bounded] Perf₀

• **Unbounded** aspect (imperfective, atelic) does not occur or becomes **bounded**
  • Greek, Niuean: No U-Perfect, Stative → Inchoative
  • Saisiyat: Atelic → Telic
Licensing [bounded] Feature

- Option 2: [-bounded] needs overt marking to be licensed
- **Unbounded** aspect only occurs if overtly marked
  - Bulgarian: imperfective (overtly marked) → U-Perfect
  - English: progressive (overtly marked) → U-Perfect
    - Unmarked verbs can be [-bounded], but do not form U-Perfect
    - Durative [-bounded] adverbials license U-Perfect with unmarked verbs
      (see Demirdache and Uribe-Etxebarria (2003) for time adverbs containing a ZP-relating head)
Licensing \([\text{bounded}]\) Feature: R-Perfect

- Possible account of R-perfect with PTS: \([+\text{bounded}]\)
  Viewpoint + Situation aspects required
- Telos (= \([+\text{bounded}]\)) occurs within \(t_{\text{Ref1}} (= [+\text{bounded}])\)
  \[
  \begin{align*}
  t_{\text{Ref2}} : & \quad \text{Perf}_0 [+\text{bounded}] \\
  t_{\text{Ref1}} : & \quad \text{View}_0 [+\text{bounded}] \\
  t_{\text{Sit}} : & \quad \text{Sit}_0 [+\text{bounded}]
  \end{align*}
  \]
- Problem: how to force \textbf{result state} to extend to \(t_{\text{Ref}}\)
Conclusion: Summary

• Perfect has different uses = PTS combined with aspect
• Perfect shows ‘Boundedness Bias’ = combining with *bounded* aspect preferred, *unbounded* dispreferred
• ‘Boundedness Bias’ = licensing of [+bounded] feature
  • [+bounded] perfect licenses [+bounded] perfective, telic aspects
  • [-bounded] imperfective, atelic aspects require overt marking to be licensed
Conclusion: Advantages

• Accounts for different effects of Perfect morphology
  • **Anteriority** + **Present relevance**: Perf₀
  • **Result state**: [+bounded] licensing in lower aspect

• Allows for both rich possibility of Perfect readings + preference for **bounded** readings

• Reconciles variation in Perfect readings with uniform semantics of Perfect (PTS)
Conclusion: Implications

• Modeling other “biases” with [bounded] licensing
  • Perfective disprefer atelic predicates
    • States disallowed with perfective (French)
    • States → Inchoatives with perfective (Greek, Russian)
  • Situation aspect determines default Viewpoint or Tense values (Mandarin)
    • Telic predicates → default past/perfective [+bounded]
    • Atelic predicates → default present/imperfective [-bounded]
References


References


• Stowell, Tim. 1993. The syntax of tense. Ms., UCLA.