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!"

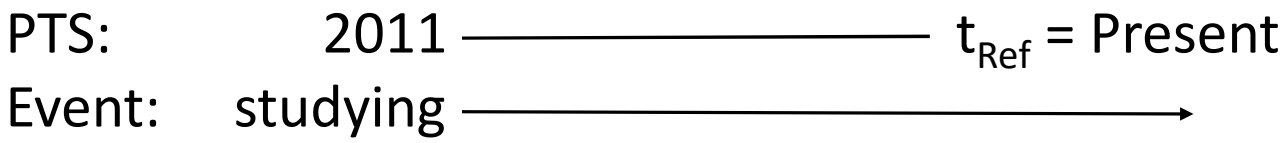
Perfect Time Span

- Perfect Time Span (PTS) theory (Iatridou et al 2001): combining PTS with Viewpoint aspects yields distinct uses
- PTS: right boundary (RB) = reference time (t_{Ref}); left boundary (LB) set by adverbial (e.g., “since 2011”) or context

  PTS: LB ——————— RB = t_{Ref}
- Version of Extended Now (McCoard 1978): **present relevance** (RB = t_{Ref}) + **anteriority** (extends left = before t_{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_{Ref}) = **Universal (U-)Perfect**
  - "I have been studying at USC since 2011"



PTS + Aspect: E-Perfect

- Perfective: situation time is included in PTS = event occurs before RB (t_{Ref}) = **Existential (E-)Perfect**
  - "I have eaten a century egg"

    PTS: ——————————— t_{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_{Ref})
  - "I have lost my glasses"

    PTS: ——————————— t_{Ref} = Present

    Event: losing ·——————→ being lost
- 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 **be**en danc**ing**” – ✓ U-Perfect
    - Durative Adverbial: “he has danced **since 6 o’clock**” – ✓ U-Perfect
- In fact, Iatridou et al (2001) claim that U-Perfects 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 **bounded** aspects (perfective, telic), against **unbounded** aspects (imperfective, atelic)
- **E- and R-perfects** preferred; **U-perfect** dispreferred
- **Unbounded** aspects = either cannot occur or must be overtly marked

Boundedness Bias

	Viewpoint Aspect	Situation Aspect
Attested: **Bounded** = default; **Unbounded** = marked	All Perfects English, Bulgarian, Saisiyat	All Situations English, Bulgarian
Attested (No **Unbounded**)	No U-Perfect Niuean, Greek	Telic Shift Saisiyat, Niuean, Greek
Unattested! (No **Bounded** OR **Bounded** = marked)	Only U-Perfect NONE!	Atelic Shift NONE!

Accounting for Bias

- Difficulty of 'Bias': **U-Perfect** = possible, but **E- and R-Perfects** = 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 (T_0): relates lower ZP (t_{Ref}) and higher ZP (t_{Eval} = Evaluation Time)
  - Viewpoint head ($View_0$): relates lower ZP (t_{Sit} = Situation Time) and higher ZP (t_{Ref}) (Demirdache and Uribe-Etxebarria 2000)
- Proposal: Sit_0 head introduces t_{Sit} ZP (= run time of event)

Ingredients of Analysis: the Perfect

- Perfect = Head ($Perf_0$) + ZP
  - $Perf_0$ relates lower ZP (t_{Ref1}) to higher ZP (t_{Ref2})
  - Right edge of t_{Ref1} (interval) coincides with t_{Ref2} (point)

- Viewpoint aspect relates t_{Sit} and t_{Ref1}
- Tense relates t_{Ref2} and t_{Eval}

[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
- Cf. Demirdache and Uribe-Etxebarria's (2000, 2003) use of [coincidence] feature (Hale 1984) on aspectual heads

[bounded] Feature

- [**+bounded**] heads
  - **Perfect:** t_{Ref2} bounds right edge of t_{Ref1}
  - **Perfective:** t_{Ref1} bounds both edges of t_{Sit}
  - **Telic:** t_{Sit} has boundary (telos) at edge of interval (state or process)
- [**-bounded**] heads
  - **Imperfective:** t_{Ref1} does not bound any edge of t_{Sit}
  - **Atelic:** t_{Sit} has no boundary (telos), only interval (state or homogenous process)

Licensing [bounded] Feature

- Perfect ($Perf_0$) is [**+bounded**] → licenses [**+bounded**] $View_0$ (perfective), Sit_0 (telic)
- [**-bounded**] aspect either needs **overt marking** to be licensed, or **cannot appear** at all
  - Overt [**-bounded**] $View_0$ morphology (progressive, imperfective) licenses [**-bounded**] Sit_0 (state, activity)

Licensing [bounded] Feature

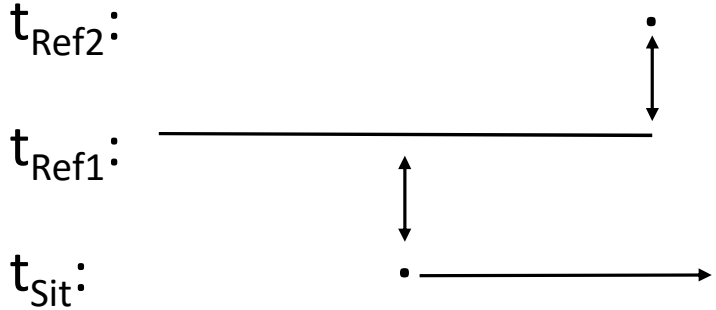
- Option 1: [**-bounded**] cannot occur below [**+bounded**] $Perf_0$
- **Unbounded** aspect (imperfective, atelic) does not occur or becomes **bounded**
  - Greek, Niuean: No U-Perfect, Stative → Inchoative
  - Saisiyat: Atelic → Telic

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 [bounded] Feature: R-Perfect

- Possible account of R-perfect with PTS: [**+bounded**] Viewpoint + Situation aspects required
- Telos (= [**+bounded**]) occurs within t_{Ref1} (= [**+bounded**])



$Perf_0$ [**+bounded**]

$View_0$ [**+bounded**]

Sit_0 [**+bounded**]

- Problem: how to force **result state** to extend to t_{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**: Perf_0
  - **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** disprefers 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**]

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