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# Maximize Presupposition in the temporal domain?

## On optional past in Forest Nenets

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# Roadmap

- Bochnak's idea on Maximize Presupposition in optional past languages
- Forest Nenets data
- Why MP doesn't work?
- First way out: EXH-based analysis with quantificational tense
- Second way out: Gricean analysis
- Conclusion: past and non-future ARE alternatives

## Thesaurus

ST = Speech Tense

**Note:** here **we ignore Narrative Present and similar narrative-related temporal phenomena**. We do understand that tense may locate the event time in relation to the anaphorically determined time and not ST, but we opt for ST and use non-narrative contexts here for clarity.

## Optional Tense In Washo

Ryan Bochnak (2016) discusses Washo, which has an **optional past tense** marker *-uñil*

- **-Ø = non-future, -uñil = past**
- clauses in non-future can be interpreted both in the present or in the past in relation to ST, see (1-2) below

(1) *wá:diŋ wayák'aši*  
*wa:diŋ w-yak'aš-i*  
now     STATIC-warm-IND  
'It (the weather) is warm now.'

(2) *watlí: zí:gin lébikhayi*  
*watli: zi:gin le-ibik'-ha-i*  
morning chicken 1-be.cooked-CAUS-IND  
'I cooked chicken this morning.'

## Optional Tense In Washo

Ryan Bochnak (2016) discusses Washo, which has an **optional past tense** marker *-uŋil*

- **-Ø = non-future, -uŋil = past**
- clauses in the past are always interpreted as preceding the ST

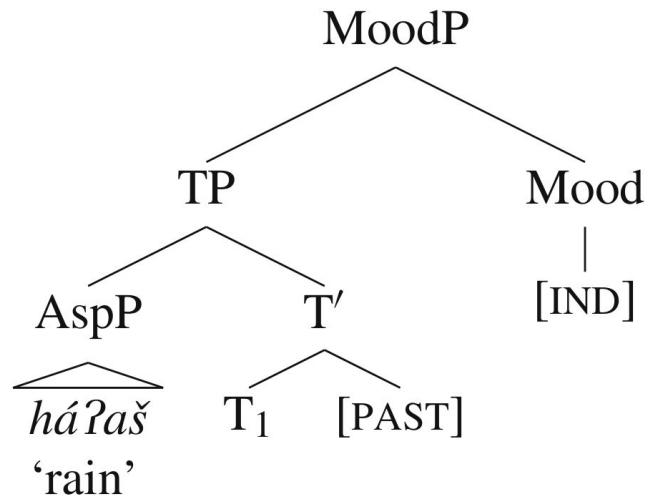
- (3) *watli: wáŋawuŋili*  
*watli: w-aŋaw-uŋil-i*  
morning STATIC-good-PAST-IND  
'It (the weather) was nice this morning.'

- (4) # *wá:diŋ háʔašuŋili*  
*wa:diŋ Ø-haʔaš-uŋil-i*  
now 3-rain-PAST-IND  
Attempted: 'It's raining now.'

## Optional Tense In Washo

- Bochnak shows that **Aktionsart** does not influence the interpretation of non-future tense
- Bochnak assumes the **pronominal theory of tense**  
(tenses are anaphoric pronouns,  
temporal orderings are in the presupposition)

- $\llbracket [_{AspP} \text{ } haʔaš ] \rrbracket^{g,c} = \lambda t \lambda w. \mathbf{rain}(t)(w)$
- $\llbracket T_1 \rrbracket^{g,c} = g(1)$
- $\llbracket \text{PAST} \rrbracket^{g,c} = \lambda t : t < t_c . t$
- $\llbracket [_{TP} [_{AspP} \text{ } haʔaš ] [ T_1 \text{ PAST } ] ] \rrbracket^{g,c} = \lambda w. \mathbf{rain}(g(1))(w)$   
defined only if  $g(1) < t_c$



## Optional Tense In Washo

- if two items are structural alternatives, and one is stronger than other we expect the antipresupposition effects following the Maximize Presupposition! (MP) rule proposed by Heim (1991)

### Maximize Presupposition!:

If a sentence S is a presuppositional alternative of a sentence S', and the context C is such that

- a. the presuppositions of S and S' are satisfied within C
- b. S and S' have the same assertive component relative to C
- c. **S carries a stronger presupposition than S'**

**then S should be preferred to S'**

- (5) *She girlbossed too close to **the** sun*      Sun is unique! **A is weaker than THE → #A**  
*#She girlbossed too close to **a** sun.*

- if PST and NFUT are alternatives, we **expect #NFUT in contexts describing events in the past**

## Optional tense in Washo

- if PST and NON-FUT are alternatives, **we expect #NON-FUT in contexts describing events in the past**

(5)  $[[\text{PST}]] = \lambda t. g(i) < tc. t$  STRONGER

$[[\text{NFUT}]] = \lambda t. g(i) \leq tc. t$  WEAKER

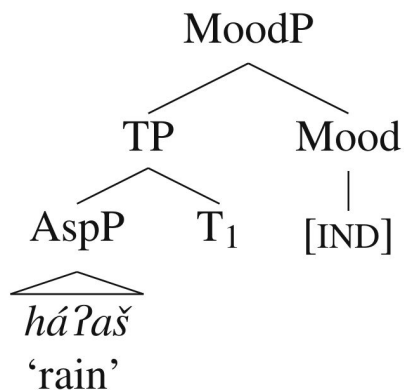
- By MP, we would get  
*#Mary sleep-NFUT yesterday, OK Mary sleep-PST yesterday*
- That's not what we see in Washo!
- Bochnak: therefore, **PST and NFUT are not structural alternatives** in Washo



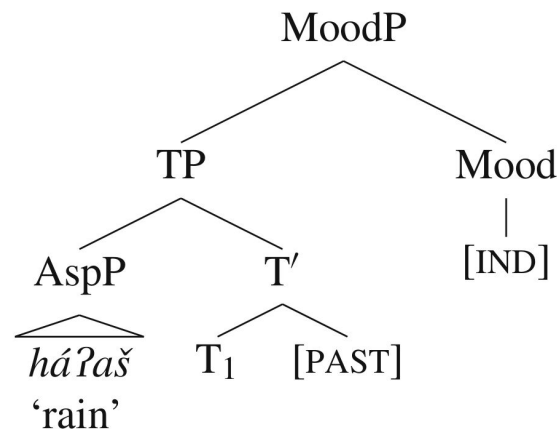
## Optional tense in Washo

- Bochnak: **PST and NFUT are not structural alternatives** in Washo
  - us: **absence of an element can be a structural alternative!** (Eckardt&Fränkel 2012; Chemla 2008)

*{the, a}, {each, the}, {know, believe}, {too,  $\emptyset$ }, {again  $\emptyset$ }, {both, all}* (Chemla 2008)



**non-future tense**



**past tense**

## Our idea

- We argue that in Forest Nenets, where past tense is also optional, **PST and NFUT are structural alternatives**



## Forest Nenets Tense System

- Past Tense (PST): -š
- Non-Future Tense (aorist): -Ø, no overt marking
- Future Tense (*n* or *t*)

See descriptions of Tundra Nenets tense in (Nikolaeva 2014, Urmanchieva 2016)

- Note that PST š is placed after agreement morphemes, violating Mirror Principle (Baker 1985). We leave the question whether it is a clitic or merged higher than typical tense morphemes to future research

## Competition between PST and aorist?

	Aorist	PST	
Imperfective verbs	Present	Past	→ <b>competition!</b>
Perfective verbs	Past	Past	→ <b>no competition</b>
IPFV + Past Adverbial	Present	Past	→ <b>competition!</b>
PFV + Past Adverbial	Present	Past	→ <b>competition!</b>

**Aorist is disallowed in sentences describing events in the past**

- with **Imperfective Verbs**
- with **Past Adverbials, regardless of verb class**

how we predict that??

## PST and Aorist

### (5) Imperfective Verbs

s'ajɲd'et      λoxo-mp'i-š / \*λoxo-mp'i

tea.pot      boil-ATEL-PST[3SG] / boil-ATEL[3SG]

'The tea pot boiled' [then it cooled down]

### (6) Perfective Verbs

čuku      d'oλnu      okoško      næ-ɲa-ta-š      /      næ-ɲa-t  
DEM      morning window      open-GFS-SUBJ.1SG-PST /      open-GFS-SUBJ.1SG

'I opened the window' [I should close it, it may wet my curtains]

## PST and Aorist with Definite Past Adverbials

### (7) Perfective Verbs + Past Adverbial

čeŋ	šičaλši-m	næ-ŋa-ma-š /	*næ-ŋa-m
yesterday	window-ACC	open-GFS-SUBJ.1SG-PST /	open-GFS-SUBJ.1SG
'I opened the window yesterday' [Then went to work]			

### (8) Imperfective Verbs + Past Adverbial

ŋup čas	čena	ŋaški-?	kuni?-š /	*kuni?
1 hour	ago	child-PL	sleep-PST[3SG]	sleep[3SG]
'An hour ago, children slept'				

## Maximize Presupposition-driven approach? Main ingredients

Suppose the competition effects arise via Maximize Presupposition

### (9) **Maximize Presupposition** (Schlenker 2012)

If a sentence  $S$  is a presuppositional alternative of a sentence  $S'$ , and the context  $C$  is such that

- a. the presuppositions of  $S$  and  $S'$  are satisfied within  $C$
- b.  $S$  and  $S'$  have the same assertive component relative to  $C$
- c.  $S$  carries a stronger presupposition than  $S'$

then  $S$  should be preferred to  $S'$



## Maximize Presupposition-driven approach? Main ingredients

Suppose the competition effects arise via Maximize Presupposition

(10) **Pronominal denotations** for PST and Aorist

$$[[\text{PST}]] = \lambda t. g(i) \prec tc. t$$

$$[[\text{AOR}]] = \lambda t. g(i) \preceq tc. t$$

(11) **Bennet-Partee Effect** (Bennett & Partee 2004):

Telic predicates cannot be true at speech time

- by (11), AOR with telic verbs is equal to PST ( $\lambda t. g(i) \prec tc. t$ ), which makes MP inapplicable

## Problems with MP

(Danir Kasenov p. c.): MP only affects the presuppositional content of the lexical item or proposition, not the assertive part

### (9) Maximize Presupposition (Schlenker 2012)

If a sentence  $S$  is a presuppositional alternative of a sentence  $S'$ , and the context  $C$  is such that

[...]

c.  $S$  carries **a stronger presupposition** than  $S'$

then  $S$  should be preferred to  $S'$

## Problems with MP

(Danir Kasenov p. c.): MP only affects the presuppositional content of the lexical item or proposition, not the assertive part

Aspectual properties are part of **assertion**, hence they cannot make PST and Aorist's presuppositions equivalent

Therefore, MP-driven approach fails to capture Forest Nenets data

**-> we need a different competition mechanism!**

## Towards A Way Out

- two theories of tense, **pronominal** and **quantificational**, see an overview in (Ogihara&Kusumoto 2020; Chen et al. 2021)

### (10) **Pronominal denotations** for PST and Aorist

$$[[PST]] = \lambda t. g(i) < tc. t$$

$$[[AOR]] = \lambda t. g(i) \leq tc. t$$

- let us shift from pronominal tense to quantificational!

### (11) **Existential denotations** for PST and Aorist

$$[[PST]] = \lambda P \lambda t. \exists t' [t' < t \wedge P(t')]$$

$$[[AOR]] = \lambda P \lambda t. \exists t' [t' \leq t \wedge P(t')]$$

- plus contextual restriction

## PST and Aorist might be existential tenses

- tests for pronominal vs. existential past (Chen et al. 2021), i.e. negation scope

### (13) Negation Scope: **NEG > PST**

mañi      xalaŋkaɫta-n      ñit-**as'**      d'ata-λ

1SG      Salekhard-DAT      NEG-**PST** go-CN

[Where would you like to go?]

‘I’ve never been to Salekhard’ [That’s why I want to go there]

PST has scope interaction with negation, therefore it is existential

## PST and Aorist might be existential tenses

There are tests for pronominal vs. existential past (Chen et al. 2021), i.e. negation scope

(14) Negation Scope: **PST > NEG**

mǎń	ńidi	mima-xana	kaŋa-štu-t-aš	(ńidi	mima-xana)
1SG	some	time-LOC	go-HAB-1SG-PST	(some	time-LOC)

ńi-štu-t-**aš**

NEG-HAB-1SG-PST

[Every spring father would go to the city and suggested to go with him]

‘Sometimes I would go, sometimes I refused’

PST has scope interaction with negation, therefore it is existential

## Consequences of existential account

- we suggest that **PST and AOR are both existential**
- -> **strict and non-strict precedence relations are a part of assertion** of PST and AOR
- competition between PST and AOR can be modeled using **scalar implicatures**
  - that they are still required to be alternatives!!
- Possible problem: **implicatures are cancellable**  
yet we aim to **explain #AOR** for atelic events in the past with the following inference  
**AOR(ipfv) → -PST(ipfv)**
- how infelicitous is that: **contradiction-infelicitous** or **implicature\_cancellation-infelicitous?**

## EXH-driven analysis

- first way out – an **exhaustification-based analysis**
- the EXH operator, originally aimed to capture semantics of *only*, is frequently used to derive scalar phenomena (Fox 2007)
- here is how (Fox&Spector 2008) define EXH:

(14)  $\text{EXH}_c(S)$  is true iff  $S$  is true and  
 $\forall S' \in C [S' \text{ is not entailed by } S \rightarrow S' \text{ is false}]$

EXH asserts its precacent and negates all innocently excludable alternatives  
(altenatives not entailed by the prejacent)

- (Kusliy&Vostrikova 2024) also use EXH in the temporal domain, however they aim to derive the cessation implicatures and work within pronominal tense



## EXH with IPFV

- suppose the set of alternatives is {AOR, PST}

[**PST** Vasya sleep ]  $\rightarrow$  [**AOR** Vasya sleep]

$\exists t [t < t_c \wedge v\_sleep(t)] \rightarrow \exists t [t \leq t_c \wedge v\_sleep(t)]$

- **no innocently excludable alternatives**  $\rightarrow$  **EXH does nothing with PST-marked S**

[EXH [PST Vasya sleep ]] == [PST Vasya sleep ]

## EXH with IPFV

- suppose the set of alternatives is {AOR, PST}

[**AOR** Vasya sleep ]  $\neg \rightarrow$  [**PST** Vasya sleep ]

[EXH [AOR Vasya sleep]] =  $\exists t [t \leq t_c \wedge v\_sleep(t)] \wedge \neg \exists t [t < t_c \wedge v\_sleep(t)]$

**PST is excludable  $\rightarrow$  EXH asserts AOR(S) and negates PST(S)**

we get  $AOR(S) \wedge \neg PST(S)$

**aorist is bad to describe IPFV events in the past**

## EXH with PFV

- suppose the set of alternatives is {AOR, PST}

[**PST** Vasya arrive ]  $\rightarrow$  [**AOR** Vasya arrive ]

$\exists t [t < t_c \wedge v\_arrive(t)] \rightarrow \exists t [t \leq t_c \wedge v\_arrive(t)]$

- **no innocently excludable alternatives**  $\rightarrow$  **EXH does nothing with PST-marked S**

[EXH [PST Vasya arrive ]] == [PST Vasya arrive ]

## EXH with PFV

- suppose the set of alternatives is {AOR, PST}

[**AOR** Vasya arrive ]  $\rightarrow$  [**PST** Vasya arrive ]

let us manually add the **B-P effect**

$$\exists t [t \leq t_c \wedge v\_arrive(t)] \wedge \neg \exists t [t \sqsubseteq t_c \wedge v\_arrive(t)] \rightarrow \exists t [t < t_c \wedge v\_arrive(t)]$$

- **no innocently excludable alternatives  $\rightarrow$**

**EXH does nothing with AOR-marked PFV S**

**$\rightarrow$  for PFV events in the past, both AOR and PST are okay**

if we attempt to exhaustify it, we get a contradiction

$$\exists t [t \leq t_c \wedge v\_arrive(t)] \wedge \neg \exists t [t < t_c \wedge v\_arrive(t)] = \exists t [t \leq t_c \wedge v\_arrive(t)] \wedge \forall t [\neg(t < t_c \wedge v\_arrive(t))]$$

## Gricean Solution

- **Second way out: pragmatic principles**
- **Simplicity Principle of Production** (von Prince 2018): Always choose the TAM marker quantifying over the narrowest possible modal-temporal domain.

### Gricean Reasoning:

1. The speaker uses AOR and not PST when talking about past
2. The use of AOR implicates that PST, which is the narrowest, is not accessible
3. SPP can be overridden
4. Therefore, Current relevance implicature arises

**fails if we take FN contrafactivity into account**

## What else?

- To make robust conclusions, we will need to look into the following:
  - Anaphoric interpretations and shifts
  - Tense in propositional attitudes - *de se* / *de re*
  - Degree achievements
  - Pronominal vs. quantificational tests for AOR
    - (note that quantificational vs pronominal tense tests are sometimes problematic)

## Conclusions

- We have shown that **AOR and PST are alternatives**
  - Maximize Presupposition fails to account for competition between AOR and PST
  - however, we assume tense is quantificational and temporal ordering forms a part of the assertive content
- then, effects of competition can be derived using **Exhaustification** or **Simplicity Principle of Production**

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