OUTLINE

Meet the tense-mood confound

Counterfactuals to the rescue?

The Yucatec data I: background

The Yucatec data II: counterfactuals

Back to the future

Implications

Epilogue: against temporal exceptionalism
MEET THE TENSE-MOOD CONFOUND

- much of the debate on tenselessness hinges on the status of various constraints on **future time reference** (FTR)

- Matthewson (2006) on St’át’imcets
  
  - matrix clauses that contain no overt tense marker are incompatible with FTR

(1.1) Táyt-kan lhkúnsa / # natcw / # zánucwem
hungry-1SG.SUB now one.day.away next.year
‘I am hungry now’; not ‘I will be hungry tomorrow/next year’

(1.2) K’ác-an’-lhkan i-nátcw-as
dry-DIR-1SG.SUB when.PAST-one.day.away-3CONJ
/ # natcw / # zánucwem
one.day.away next.year
‘I dried it yesterday’; not ‘I will dry it tomorrow/next year’

(Matthewson 2006: 677)
Matthewson (2006) on St’át'ímcets (cont.)

however, as in Yucatec (and to some extent in English), conditional antecedents can have FTR w/o marking

(1.3) Lh-7áts’x-en-acw s-Laura
HYP-see-DIR-2SG.CONJ NOM-Laura
tsun xwem-ás kw s-nas-ts úxwal’
say(DIR) fast-3CONJ DET NOM-go-3POSS go.home
‘If you see Laura, tell her to hurry up and go home’
(Matthewson 2006: 678)
Matthewson (2006) on St’át'ímcets (cont.)

- there is a variety of options for expressing FTR
  - including the prospective aspect marker *cuz’*
  - and the future marker *kelh*

- which Matthewson treats as a temporal ordering modal expressing Abusch’s (1988) *woll*

(1.4) **Cuz’** qwatsáts ta naplí-t-a
PROSP leave DET priest-DET
‘The priest is going to leave’ (Matthewson 2006: 678)

- the most common marker w/ FTR is *kelh*

(1.5) Táyt-kan **kelh**
hungry-1SG.SUB FUT
‘I will be hungry’ (not: ‘I am/was hungry’) (Matthewson 2006: 677)
Matthewson (2006) on St’át’imcets (cont.)

Matthewson’s (2006) analysis

- St’át’imcets has an unpronounced non-future tense marker
  - in matrix clauses, *kelh* and *cuz’* pick up non-future reference times from this non-future marker
    - returning either absolute future or future-in-the-past interpretations

- adopted e.g. by Hayashi (2011) for Inuktitut; Jóhannsdóttir & Matthewson (2008) for Gitxsan (Tsimshianic)
Matthewson (2006) on St’át’imcets (cont.)

In the following, I use the terms

- **covert past/non-future** for zero-morphemes assumed to express past/non-future tense

- **cryptopast** for aspectual/modal morphemes assumed to conflate past/non-future tense
a profoundly tenseless alternative to covert/cryptopasts: mood-based analyses

Bittner (2005; 2013; ms) on Kalaallisut (West Greenlandic)

Kalaallisut is a mood-centered language

(1.7) a. Ole {ullumi/#aqagu) aallar-\textit{pu}-q.
   Ole today/tomorrow leave-\text{DEC}_{iv} -3S_{(T)}
   ‘Ole left {today/#tomorrow}.’

b. Ole {ullumi/#aqagu) aallar-p(i)-a?
   Ole today/tomorrow leave-\text{QUE} -3S_{(T)}
   ‘Did Ole leave {today/#tomorrow}?’

c. Aallar-\textit{li}-Ø!
   leave-\text{OPT} -3S_{!}
   ‘Let him leave!’

d. Aallar-(\textit{g})i-t!
   leave-\text{IMP} -2S_{!}
   ‘Leave!’

“Fact-oriented moods assert that (\text{DEC }, \text{FCT } ), or inquire whether (\text{QUE }), the eventuality of the verb is a \textbf{currently verifiable fact} –i.e. an event that has already happened (see [(4.2a-b)]), or a state that has at least begun […] , in the same world as the speech act.” (Bittner 2013: 36; emphasis \textit{JB})
mood-based analyses (cont.)

as a consequence, reference to the future is apparently exclusively indirect in Kalaallisut via non-future topic times

“PROSPECTIVITY THESIS
Kalaallisut translations of future auxiliaries comprise three related classes:
   A. prospective statives evoking (current) attitude states to de se prospects,
   B. prospective inchoatives evoking (realized) starts of expected processes,
   C. prospective matrix moods marking the speech act as a request or wish.”
(Bittner 2005: 354)

Tonhauser adopts Bittner’s Prospectivity Thesis for Paraguayan Guaraní but does not address the role of mood
a third option?

Mucha (2013) argues that FTR constraints in Hausa are pragmatic in nature and do not arise in appropriate discourse contexts. I argue below that FTR constraints in Yucatec also involve a pragmatic component but they are not sensitive to the discourse context but exclusively to the syntactic context.
the central question of this talk

how do we distinguish factual/realis moods such as invoked by Bittner’s proposal

from non-future tenses such as invoked by Matthewson’s?

after all, the sets of data accounted for by the two are largely coextensive

assuming currently verifiable facts cannot populate the future
today’s test case: Yucatec Maya

preview

- revisit the facts of FTR constraints in this language first drawn attention to in Bohnemeyer (1998)
- bring new data to bear concerning the behavior of perfective aspect markers in counterfactuals
- develop a revised mood-based account as a result
OUTLINE

- Meet the tense-mood confound
- Counterfactuals to the rescue?
  - The Yucatec data I: background
  - The Yucatec data II: counterfactuals
- Back to the future
- Implications
- Epilogue: against temporal exceptionalism
COUNTERFACTUALS TO THE RESCUE?

- one domain for which mood- and tense-based accounts of FTR constraints make distinct predictions: counterfactuals
  - nonfuture tenses should be possible with counter-factual reference
    - and may actually be required for it
  - in contrast, realis moods should straightforwardly be excluded in counterfactuals
a typology of conditionals

Table 1.1. Classification of conditionals based on von Fintel (2009) and Iatridou (2000)

<table>
<thead>
<tr>
<th>Type of conditional</th>
<th>Example</th>
<th>Implicature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech act</td>
<td>If you’re hungry, there’s bread and cheese in the fridge</td>
<td>N/A</td>
</tr>
<tr>
<td>Premise/factual</td>
<td>If you’re so clever, why don’t you do this problem on your own?</td>
<td>N/A</td>
</tr>
<tr>
<td>Indicative Epistemic</td>
<td>If Sally decided to become a drummer, she’s happy</td>
<td>Uncertainty regarding whether Sally decided to become a drummer/is happy</td>
</tr>
<tr>
<td>(past/present-oriented)</td>
<td>If Sally is happy, she decided to become a drummer</td>
<td></td>
</tr>
<tr>
<td>Hypothetical Hypothetical</td>
<td>If Sally decides to become a drummer, she’ll be happy</td>
<td>Uncertainty regarding Sally’s decision</td>
</tr>
<tr>
<td>(future-oriented)</td>
<td>If Sally had decided to become a drummer, she would be happy</td>
<td>Sally decided not to become a drummer (and is not happy)</td>
</tr>
<tr>
<td>Counterfactual PastCF</td>
<td>If Sally were happy, she would go out more</td>
<td>Sally is not happy (and doesn’t go out much)</td>
</tr>
<tr>
<td>PresentCF</td>
<td>If Sally would decide to become a drummer, she would quit semantics</td>
<td>It’s unlikely that Sally will decide to become a drummer</td>
</tr>
<tr>
<td>Future less vivid (FLV)</td>
<td>If Sally would decide to become a drummer, she would quit semantics</td>
<td></td>
</tr>
</tbody>
</table>
Iatridou’s (2000) account of the semantic and morphological makeup of Indo-European counterfactuals (CFs)

- English and Modern Greek (MG) CFs involve two kinds of temporal/modal morphology: past and future

(2.1) An \( \text{i}x\.\varepsilon \) pari to siropi \( \Theta a \) iχ\.\varepsilon γ\.ini kala

MG  if  PLUPERF taken the syrup  FUT PLUPERF become better

‘If he had taken the syrup, he would have gotten better’

(Iatridou 2000: 233)

- Iatridou assumes that \textit{would} conflates Abusch’s (1988) \textit{woll} future w/ past
Iatridou’s account (cont.)

- this holds for FLV conditionals as well as for PastCFs and PresCFs

(2.1) An **eperne aften to siropi θa γινοταν καλα**

MG if take.**PST.IMPV** this the syrup **FUT** become.**PST.IMPV** better

‘If he **took** this syrup, he **would** get better’

(Iatridou 2000: 234)
Iatridou’s account (cont.)

Iatridou does not discuss the role of the future morphology which is optional in some of the languages in her sample. My assumption: future marking in CF conditionals is linked to a speech act of or akin to prediction. Whether that’s expressed by the future morphology or not...
Iatridou’s account (cont.)

- evidence that counterfactuality (the \(\neg p\) inference) is an implicature

(2.3) If the patient had the measles, he would have exactly the symptoms he has now. We conclude, therefore, that the patient has the measles.

(2.4) If the butler had done it, we would have found blood on the kitchen knife. The knife was clean; therefore, the butler did not do it. (conclusion is not redundant) (Iatridou 2000: 232)
Iatridou’s account (cont.)

Iatridou argues that the past morphology in CF conditionals has two functions:

- In PastCFs, it indicates that the topic time $t_{TOP}$ precedes the utterance time.
- In addition, in all types of CFs, it expresses the exclusion feature (ExclF), indicating that the set of topic worlds under consideration excludes the utterance world $w_u$.
- Thereby triggering an implicature to the effect that $w_u$ does not contain the described situation within $t_{TOP}$.
implications and questions

- if FTR constraints in Language $L$ are the result of covert/cryptopast marker $PST$, $PST$ should also occur in $L$’s CFs
- if profoundly tenseless languages exist, how do they express ExclF?
OUTLINE

- Meet the tense-mood confound
- Counterfactuals to the rescue?
- The Yucatec data I: background
- The Yucatec data II: counterfactuals
- Back to the future
- Implications
- Epilogue: against temporal exceptionalism
THE YUCATEC DATA I: BACKGROUND

FTR constraints: the (complex) basic facts

**Table 3.1.** *Finite clauses and future topic times in Yucatec*

<table>
<thead>
<tr>
<th>Syntactic environment</th>
<th>Matrix clauses</th>
<th>Conditional antecedents</th>
<th>Other finite subordinate clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfectives</td>
<td>Not with FTR</td>
<td>Unconstrained</td>
<td>Excluded</td>
</tr>
<tr>
<td>All other</td>
<td></td>
<td></td>
<td>Not with FTR</td>
</tr>
</tbody>
</table>

TODAY’S TALK
testing for deictic tense: is a clause formed with a given marker compatible with present, past, and future topic times?

- e.g., the perfect-like ‘terminative’ aspect marker *ts’o’k*

- with a past topic time, like a pluperfect:

\[(3.1)\]
\[
K-u=k'uch-ul-o'b=e',
\]
\[
\text{IMPF-A.3=arrive-INC=TOP}
\]

*ts’o’k*  
*u=kim-il*  
*le=chàampal=e’.*

*TERM*  
A.3=die-INC  
DEF=small:child=D3

'(By the time) they arrived, the baby **had** already died.'
with a future topic time, like a future perfect:

(3.2) \( \text{Sáamal \ óok-a'n+k'ìin=e'} \)

tomorrow \ enter-RES+sun=TOP

\( \text{ts'o'k} \ u=\text{bèet-ik} \quad le=\text{túus+bèel=o'} \)

TERM \ A.3=do-INC(B.3.S) \ DEF=send+way:REL=D2

'By tomorrow at dusk (the boy) will have done the errand.'
(Andrade 1955: 135-136)

all Yucatec clauses are freely compatible with topic times in
the past, present, and future of utterance time

with one exception: the perfective aspect marker \( t-/h- \)
perfective aspect excludes FTR in matrix clauses

(3.5) #T-*in-ts'on-ah le=kèeh sáamal=o',
PRV-A1SG=shoot-CMP(B3SG) DEF=deer tomorrow=D2
intended: ‘I will shoot the deer tomorrow’

it does, however, occur w/ FTR
in hypothetical conditional antecedents

(3.6) Wáah t-*in-ts'on-ah le=kèeh sáamal=o',
ALT PRV-A1SG=shoot-CMP(B3SG) DEF=deer tomorrow=D2
he' in=tàas-ik=e'!
ASS A1SG=come:CAUS-INC(B3SG)=D3

‘If I shoot the deer tomorrow, I agree to bring it!’
the use of the perfective in conditional antecedents does not convey counterfactuality

for this meaning, subjunctive mood is used

(3.7) [I’m not allowed to vote in the upcoming local election, since I’m not a Mexican Citizen.]

Pero wáah káa bèey-lak in=bóotare’,
but ALT SR like.this-INCH.SUBJ(B3SG) A1SG=vote
hi’n=bóotar-t-ik Pablo=e’.
ASS:A1SG=vote-APP-INC(B3SG) Pablo=D3

‘But if I were able to vote, I’d definitely vote (for) Pablo.’
future topic times freely occur outside perfective clauses

so Bittner’s Prospectivity Thesis is untenable for Yucatec

(3.8)  Sáamal óok-a'n+k'iin=e'
tomorrow enter-RES+sun=TOP

ts'o'k  u=bèet-ik  le=túus+bèel=o'
TERM  A3=do-INC(B.3.S)  DEF=send+way:REL=D2

'By tomorrow at dusk (the boy) **will have done** the errand.'
(Andrade 1955: 135-136)
unlike in Hausa (Mucha 2013), FTR constraints are not lifted by suitable discourse contexts

(3.9) [QUESTION: What your brother DO if you don't go to see him today, do you think? ANSWER:]

a. Yan u=túuxt-ik tèen hun-p’éel kàarta
   OBL A3=send-INC(B3SG) me one-CL.IN letter
   ‘He’ll send me a letter’

b. #T-u=túuxt-ah tèen hun-p’éel kàarta
   PRV-A3=send-CMB(B3SG) me one-CL.IN letter
   intended: ‘He’ll send me a letter’

**Modal Commitment Constraint**: The realization of events in the (deictic or anaphoric) future cannot be asserted, denied, questioned, or presupposed as fact. Assertions and questions regarding the future realization of events require specification of a modal attitude on the part of the speaker.

**Event Realization**: A predicate $P$ is realized by event $e$ at topic time $t_{TOP}$, or equivalently, $e$ is realized under $P$ at $t_{TOP}$, if and only if at least the run time of a subevent $e'$ of $e$ that also falls in the denotation of $P$ is included in $t_{TOP}$:

$$\forall P, t_{TOP}, e \in E \ [\text{REAL}_E(P, t_{TOP}, e) \leftrightarrow \exists e'[P(e') \land e' \ll_E e \land \tau(e') \leq_T t_{TOP}]]$$

(Bohnemeyer & Swift 2004: 286)

- Problem I: statives and imperfectives of atelic predicates generally entail realization at $t_{TOP}$
  - yet are not subject to FTR constraints

- Problem II: perfect-like markers such as *ts’o’k* presuppose realization, but are not subject to FTR constraints either
OUTLINE

- Meet the tense-mood confound
- Counterfactuals to the rescue?
- The Yucatec data I: background
- The Yucatec data II: counterfactuals
- Back to the future
- Implications
- Epilogue: against temporal exceptionalism
THE YUCATEC DATA II: COUNTERFACTUALS

- the study

- stimuli: 22 scenarios
  - 10 PastCF; 4 PresCF; 3 FLV; 3 hypothetical; 2 epistemic

- varied in terms of
  - the presence of overt negation in the antecedent, consequent, both, or neither
  - the lexical-aspectual type of the predications
  - the temporal relation between the described situations

- participants: 4 Yucatec speakers 40-71 years old (all male)
the study (cont.)

method: for each scenario

construct a Yucatec rendition with one speaker

have all four renarrate in their own words (in separate sessions), encouraging them to improve the wording

if perfective aspect is disused in the antecedent, consequent, or both, try and substitute it

and elicit the speakers’ judgments and interpretations of the resulting sentences
the study (cont.)

example

(3.1) Pedro=e’ Estados Unidos kah-akbal.
Pedro=TOP United States live-DIS(B3SG)
‘Pedro, he lives in the U.S.’

Ti’ septyembre=e’ ti’=yàan Mexico iknal u=suku’n
PREP September=TOP PREP=EXIST(B3SG) Mexico at A3=older.brother
‘In September, there he is in Mexico at his brother’s’

túun xíymbat-ik.
PROG:A3 walk:APP-INC(B3SG)
‘visiting him.’
example (cont.)

Káa=t-y=a’l-ah=o’ túnun tukul-ik-o’b=e’
CON=PRV-A3=say-CMP(B3SG)=D2 PROG:A3 think-INC-PL=TOP
‘At the time, they were thinking’

yan u=yàan-tal ma’+lóob kosèecha.
OBL A3=EXIST-INCH.INC NEG+bad harvest
‘there would be a good harvest.’

Káa=h-sùunah Pedro t-u=nah-il.
CON=PRV-turn\ATP:CMP(B3SG) Pedro PREP-A3=house-REL
‘(And then) Pedro returned home.’
example (cont.)

Te=novyèembre  tún=o’ káa=h-t’Àan-nah  telèefono
PREP:DEF=November then=D2  CON=PRV-speak\ATP-CMP(B3SG) telephone
‘Then, in November, he spoke on the phone’

y=éetel  u=suku’n.  Káa=t-u=k’áat+chi’-t-ah
A3=COM  A3=older.brother  CON=PRV-A3=ask+mouth-APP-CMP(B3SG)
‘with his brother. (And) he asked him’

bix  h-úuch  u=hóok-ol le=kosèecha=o’.
how(B3SG)  PRV-happen(B3SG)  A3=exit-INC  DEF=harvest=D2
‘how the harvest had turned out.’
example (cont.)

Káa=h-a’l-a’b ti’ tuméen u=suku’n=e’
CON=PRV-say-PASS.CMP(B3SG) PREP(B3SG) CAUSE A3=older.brother=TOP
‘(And) he was told by his brother’

láah=k’àas-kun-t-a’b le=nal
UNIV=bad-CAUS-APP-PASS.CMP(B3SG) DEF=maize
‘the corn was completely destroyed’

tuméen hun-p’éel chak+íik’-al.
CAUSE one-CL.IN rain+wind-REL
‘by a storm.’
example (cont.)

Káa=t-uy-a’l-ah u=suku’n
CON=PRV-say-CMP(B3SG) A3=older.brother
‘(And then) his brother said’

“Wáah ma’ tuméen òok’-ik le=chak+íik’-al=o’
ALT NEG(B3SG) CAUSE enter-EXTRAFOC(B3SG) DEF=rain+wind-REL=D2
‘“If it wasn’t because the storm entered’

(béeh) ts’o’k u=hach=yàan-tal (ka’ch) le=nal=o’.
now TERM A3=really=EXIST-INCH.INC formerly DEF=maize=D2
‘the corn would have turned out really well.’
example (cont.)

alternative continuation 1

... ??Wáah ma’ h-òok’ (ka’ch) lete=chak+íik’-al=o’...

ALT NEG(B3SG) PRV-enter(B3SG) (formerly) it:DEF=rain+wind-INC=D2
intended: ‘If the storm hadn’t entered...’

speaker comment:

Ma’ hach=uts-il, mu’n hach=na’t-a’l.

NEG(B3SG) really=good-REL(B3SG) NEG:A3 really=divine-PASS.INC
‘Not very good, hard to understand.’
example (cont.)

alternative continuation II

... Wáah ma’ tuméen h-úuch uy=òok’-ol

ALT NEG(B3SG) CAUSE PRV-happen(B3SG) A3=enter-INC

‘“If it wasn’t because it entered’

le=chak+íik’-al=o’
DEF=rain+wind-REL=D2

‘the storm,’

#h-hach=yàan-chah (ka’ch) le=nal=o’.
PRV-really=EXIST-INCH.CMP(B3SG) formerly DEF=maize=D2

intended: ‘the corn would have turned out really well.’
## results I: the perfective

### Table 4.1. Distribution of perfective aspect markers across conditional types

<table>
<thead>
<tr>
<th>Type of conditional</th>
<th>Perfective in the antecedent?</th>
<th>Perfective in the consequent?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epistemic (past/present-oriented)</td>
<td>Yes</td>
<td>??? (Not tested)</td>
</tr>
<tr>
<td>Hypothetical (future-oriented)</td>
<td>Yes</td>
<td>No (modals used instead)</td>
</tr>
<tr>
<td>Counterfactual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PastCF (subjunctive used instead)</td>
<td>No</td>
<td>No (‘terminative’ aspect used instead)</td>
</tr>
<tr>
<td>PresentCF (semantically inappropriate)</td>
<td>N/A</td>
<td>No (‘terminative’ aspect used instead)</td>
</tr>
<tr>
<td>Future less vivid (FLV)</td>
<td>No (subjunctive used instead)</td>
<td>No (modals used instead)</td>
</tr>
</tbody>
</table>
results I: the perfective (cont.)

intriguingly, in PastCF scenarios

attempted substitutions of perfectives in the antecedent yielded reinterpretations of the scenario as hypothetical

(3.2) [Context: as in (3.1)] Attempted substitution:

Wáah ma’ **h-òok’** lete=chak+íik’-al=o’...

ALT NEG(B3SG) **PRV**-enter(B3SG) it:DEF=rain+wind-INC=D2

intended: ‘If the storm hadn’t entered...’

Elicited continuation:

...yan **u=yàan-tal** le=nal=o’.

OBL A3=EXIST-INCH.INC DEF=maize=D2

‘...the corn will turn out (well).’

Speaker comment: *Futuro* (‘future’)!
results I: the perfective (cont.)

- note the contrast b/w FLV and hypothetical scenarios

(3.3) [Context: similar to (3.1), but Pedro calls before the harvest]

a. FLV

Wáah káa tàal-ak hun-p’éeel chak+íik’-al=o’
ALT SR come-SUBJ(B3SG) one-CL.IN rain+wind-INC=D2
’If a storm had come / were to come’
yan u=k’àas-kun-t-ik le=kosèecha=o’.
OBL A3=bad-CAUS-APP-INC(B3SG) DEF=harvest=D2
’it would destroy the harvest.’

Speaker comment: no evidence of a storm in the area at utterance time.
(3.3) [Context: similar to (3.1), but Pedro calls before the harvest]

b. Hypothetical

Wáah h-tàal hun-p’éeel chak+íik’-al=ó’

ALT PRV-come(B3SG) one-CL.IN rain+wind-INC=D2

‘If a storm comes’

yan u=k’àas-kun-t-ik le=kosèecha=ó’.

OBL A3=bad-CAUS-APP-INC(B3SG) DEF=harvest=D2

‘it will destroy the harvest.’

Speaker comment: a storm is already approaching;
chakíik’al ‘storm’ should actually be definite here!

however, for some speakers, the subjunctive antecedent can be used with the hypothetical interpretation as well
results II: the exclusion feature (ExclF)

- ExclF is expressed by means of the deictic temporal adverbs *ka’ch* ‘formerly’ and *béeh* ‘now’
  - one or both may be used in the antecedent and/or the consequent
  - their use is optional

- however, if neither is used in either clause, it becomes harder to recover the CF sense
  - although this is in principle still possible in context
that ka’ch ‘formerly’ expresses ExclF rather than anteriority (latridou: ‘fake past’) is evident from its use in PresCFs

(3.4) [Context: Pedro and Juan are taking a walk in the cemetery. Night has fallen. Suddenly they hear a terrible scream. Says Juan: “Thank God I don’t believe in ghosts!...”]

Wáah tíín krèer-t-ik ha’s-ah+òol ka’ch-il=e’,
ALT PROG:1SG believe-APP-INC(B3SG) shake:CAUS-ATP+life.force formerly-REL=TOP
béeh sahak-en be’òora=a’!”
now afraid-B1SG now=D1

‘If I believed in ghosts, I’d be scared now!’”
OUTLINE

» Meet the tense-mood confound
» Counterfactuals to the rescue?
» The Yucatec data I: background
» The Yucatec data II: counterfactuals
» Back to the future
» Implications
» Epilogue: against temporal exceptionalism
how to make sense of the distribution of perfectives in conditionals?

hypothesis: the perfective aspect marker, unlike other aspects, conflates *realsis mood*

which I take to be a speech act meaning representing the inclusion of the topic worlds in the utterance world

(4.1) \[ \langle \text{PRV} \rangle^c = \lambda w. \lambda s. \lambda P.P(s) \land \tau(s) \subseteq t_{TOP}(c) \] - aspectual meaning

\[ w \in W_{TOP}(c) \rightarrow w \ll w_U(c) \] - speech act meaning

\[ W_{TOP}(c) \] - the set of topic worlds at context \( c \)

\( \ll \) - non-proper part-of relation
the mood/illocutionary restriction explains straightforwardly why the perfective markers are incompatible with FTR in matrix clauses while avoiding the overgeneralization of the Modal Commitment Constraint of Bohnemeyer (1998) which makes incorrect predictions for a number of clause types in the same way, it correctly predicts that perfectives are unavailable in counterfactual consequents
conditional antecedents block illocutionary meanings

- as subordinate clauses commonly do
  - e.g., (4.2) does not make a promise

(4.2) *If I promise you to consider your evidence, you’ll promise me to consider mine.*

- this accounts for why perfectives are fine in epistemic and hypothetical antecedents
but why then are perfectives excluded in CF antecedents?

because the realis constraint on the topic worlds, while no longer effective at the speech act level

is still semantically incompatible with ExclF and thus blocks the counterfactual implicature

inside the antecedent
and why should only the perfective aspect markers conflate realis mood?

- the first argument comes from the unique association of perfective aspect with completive ‘status’

- status being a morphological mood category in Mayan

**Table 5.1. Distribution of status categories across predication types**

<table>
<thead>
<tr>
<th>Status category</th>
<th>Distribution</th>
<th>Finite subordinate clauses</th>
<th>Nonfinite verbal projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completing</td>
<td>Perfective</td>
<td>Imperfective aspect;</td>
<td>Gerunds; complements of</td>
</tr>
<tr>
<td>Subjunctive</td>
<td>Imperfective</td>
<td>purpose clauses</td>
<td>predicates expressing</td>
</tr>
<tr>
<td>Imperative</td>
<td>Imperative</td>
<td>Irrealis clauses;</td>
<td>intensional complements of</td>
</tr>
<tr>
<td>Extra-focal</td>
<td>N/A</td>
<td>Background clause in</td>
<td>complements in the motion-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>conditionals</th>
<th>cum-purpose construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incomplete</td>
<td>Imperfective</td>
<td>purpose clauses</td>
<td>Transitive complements of</td>
</tr>
<tr>
<td></td>
<td>aspect</td>
<td></td>
<td>transitive complements in the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>motion-cum-purpose construction</td>
</tr>
<tr>
<td>Subjunctive</td>
<td>‘Insubordinate’</td>
<td>Irrealis clauses;</td>
<td>Intensional complements of</td>
</tr>
<tr>
<td>(Evans 2007)</td>
<td>Imperfective</td>
<td>counterfactual</td>
<td>transitive complements in the</td>
</tr>
<tr>
<td>Imperative</td>
<td>Imperative</td>
<td>antecedents</td>
<td>motion-cum-purpose construction</td>
</tr>
<tr>
<td>Extra-focal</td>
<td>N/A</td>
<td>Background clause in</td>
<td>complements with projective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>manner focus</td>
<td>and counterfactual contents</td>
</tr>
</tbody>
</table>

N/A

N/A
• perfectives are the only aspectual/modal markers that occur with completive status suffixes

• and the completive is the sole status category that is restricted to finite clauses

• thus it seems plausible

• that the perfectives would inherit realis mood from the completive status suffix
in addition, perfective aspect has a unique role in discourse

in that it is the sole aspect for introducing new temporal reference points (Bohnemeyer 2009)

thus, perfective clauses serve as “pillars” supporting the discourse representation and common ground

so pairing them with realis mood might facilitate the cognitive “bookkeeping” of discourse
OUTLINE

- Meet the tense-mood confound
- Counterfactuals to the rescue?
- The Yucatec data I: background
- The Yucatec data II: counterfactuals
- Back to the future
- Implications
- Epilogue: against temporal exceptionalism
**IMPLICATIONS**

- Yucatec disallows perfectives in counterfactuals
  - just as it disallows them in matrix clauses with FTR
  - suggesting strongly that Yucatec perfectives are no cryptopasts
  - and thus that Yucatec is profoundly tenseless
a tenseless recipe for cooking up counterfactuals

use temporal adverbs to express the exclusion feature triggering the counterfactual implicature

that this is possible lends impressive support to Iatridou’s (2000) theory of counterfactuals
counterfactuals appear to be a diagnostic context for differentiating past tenses from realis moods

thus, hypothesized covert pasts and cryptopasts can and should be tested in this environment
EPILOGUE: AGAINST TEMPORAL EXCEPTIONALISM

- why are we (still) debating whether profound tenselessness is a thing?
  - why are we not having the same debate over definite articles or evidentials, etc
    - nor over functional categories that might be expressed and composed “above” tense
      - such as illocution and information perspective?
  - perhaps the debate could benefit
    - if those supporting temporal exceptionalism gave explicit reasons for why they think tense is different?
ACKNOWLEDGEMENTS

- boatloads of thanks to
  - Fulgencio Ek Ek
  - Ernesto May Balam
  - Ramón May Cupul
  - Saturnino May Ek

- the members of the
  UB Semantic Typology Lab

- you guys!!!

“THE FUTURE’S NOT CERTAIN
AND THE END IS ALWAYS NEAR.”
— THE DOORS, ROADHOUSE BLUES
Yucatec preverbal aspectual-modal (AM) markers

- every finite verb clause must contain exactly one of these

- part I: aspectual markers

Table 3.1. Yucatec preverbal aspect markers

<table>
<thead>
<tr>
<th>Category</th>
<th>Form</th>
<th>Meaning</th>
<th>Compatible with past topic times in matrix S</th>
<th>Compatible with future topic times in matrix S</th>
<th>At-issue commitment to realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>t- / h-</td>
<td>Perfective</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Imperfective</td>
<td>k-</td>
<td>Generic/habitual/imperfective</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Progressive</td>
<td>t’aan</td>
<td>Imperfective</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Terminative</td>
<td>ts’o’k</td>
<td>Perfect</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Prospective</td>
<td>mukah</td>
<td>Prospective</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Yucatec preverbal aspectual-modal (AM) markers (cont.)

- every finite verb clause must contain exactly one of these

part II: degree-of-remoteness markers

<table>
<thead>
<tr>
<th>Category</th>
<th>Form</th>
<th>Presupposition</th>
<th>At-issue content</th>
<th>Compatible with past topic times in matrix S</th>
<th>Compatible with future topic times in matrix S</th>
<th>At-issue commitment to realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote future</td>
<td><em>biin</em></td>
<td>$t_{top} &lt; \tau(e)$</td>
<td>$D(t_{top}, \tau(e))$ contextually large</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Immediate future</td>
<td><em>ta’itak</em></td>
<td>$t_{top} &lt; \tau(e)$</td>
<td>$D(t_{top}, \tau(e))$ contextually small</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Immediate past</td>
<td><em>tántik</em> ...=e’</td>
<td>$\tau(e) &lt; t_{top}$</td>
<td>$D(t_{top}, \tau(e))$ contextually very small</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Recent past</td>
<td><em>sáam</em></td>
<td>$\tau(e) &lt; t_{top}$</td>
<td>$D(t_{top}, \tau(e))$ contextually small</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Remote past</td>
<td><em>úuch</em></td>
<td>$\tau(e) &lt; t_{top}$</td>
<td>$D(t_{top}, \tau(e))$ contextually large</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 3.2. Yucatec preverbal degree-of-remoteness markers
Yucatec preverbal aspectual-modal (AM) markers (cont.)

- every finite verb clause must contain exactly one of these

- part III: modal markers

Table 3.3. *Yucatec preverbal modal markers*

<table>
<thead>
<tr>
<th>Category</th>
<th>Form</th>
<th>Meaning</th>
<th>Force</th>
<th>Modal base</th>
<th>Ordering source</th>
<th>Compatible with past topic times in matrix S</th>
<th>Compatible with future topic times in matrix S</th>
<th>At-issue commitment to realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligative</td>
<td>yan</td>
<td>“Weak” U</td>
<td>Circumstantial</td>
<td>Stereotypical</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Necessitive</td>
<td><em>k’a’náan</em>/<em>k’abéet</em></td>
<td>“Strong” U</td>
<td>Teleological</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desiderative</td>
<td>táak</td>
<td>U</td>
<td>Bouletic</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assurative</td>
<td><em>he’...=e’</em></td>
<td>U</td>
<td>Circumstantial/Epistemic</td>
<td>Stereotypical</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Counter-factual</td>
<td>óolak</td>
<td>E</td>
<td>Empty</td>
<td>Realistic</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>