Subjunctive mood as non-realization viewpoint aspect in Mayan

Overview

• mood: the next hurrah/final frontier
  • data (i): the Yucatec status system
  • theory (i): aspect and realization
  • analysis (i): the idea in a nutshell
  • data (ii): uses of the subjunctive
  • theory (ii): possibilistic situation semantics
  • analysis (ii): toward a formalization
  • comparison to other approaches
  • conclusions

mood: the next hurrah/final frontier (cont.)
• goals: theoretical (cont.)
  – unified theories of tense and aspect are a reality
    • Kamp & Reyle 1993; Klein 1994
  – the next hurrah/final frontier:
    a unified theory of tense, aspect, and mood?

'I know what you're thinking about,' said Tweedledum; 'but it isn't so, no how.'
'Contrariwise,' continued Tweedledee. 'If it was so, it might be; and if it were so, it would be; but as it isn't, it ain't. That's logic.'

(Lewis Carroll, Through the Looking Glass)

mood: the next hurrah/final frontier
• goals: descriptive
  – sketch the semantics
    of the so-called status system of Yucatec Maya
  – status: a functional category of the Mayan verb
    (Kaufman 1992)
  • conflates notions of viewpoint aspect, mood, illocutionary force; also sensitive to properties of argument structure, voice

mood: the next hurrah/final frontier (cont.)
• goals: descriptive (cont.)
  – unified theories of tense and aspect are a reality
    • Kamp & Reyle 1993; Klein 1994
  – the next hurrah/final frontier:
    a unified theory of tense, aspect, and mood?
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Data (i): the Yucatec status system

• status marking: subcategories
  • every verb form, finite or not, that projects a core must be marked for exactly one of five subcategories

<table>
<thead>
<tr>
<th>Status category</th>
<th>Subcategorization</th>
<th>Verb subclassification (finite)</th>
<th>Verb subclassification (nonfinite)</th>
<th>Surface verbal projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperfective</td>
<td>inac0ve</td>
<td>ik</td>
<td>le=nah=o’</td>
<td>le=nah=o’</td>
</tr>
<tr>
<td></td>
<td>Perfective aspect</td>
<td>-ah</td>
<td>le=nah=o’</td>
<td>le=nah=o’</td>
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</tr>
</tbody>
</table>

Data (ii): the Yucatec status system

• status marking: allomorphy
  • the status suffixes come in allomorphs that distinguish verb (stem) class and voice
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• data (i): the Yucatec status system

theory (i): aspect and realization

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• data (ii): uses of the subjunctive
• theory (iii): possibilistic situation semantics
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Theory (i): aspect and realization

• framework: Klein’s (1992, 1994, etc.) aspect theory
  – a dynamic model of what a discourse is “about”
  – it is possible to some extent to model the meanings
    of utterances in a discourse as contributing to a question
    – an implicit or explicit question
• Klein & von Stutterheim 1987, 2002: aquessto
• Roberts 1996, 2012; Simons et al. 2010: question under discussion (QuD)
• only propositions that contribute to the QuD are at issue
  – all other propositions are presupposed or backgrounded
• limits: non-constative/representative speech acts; directives other than questions

realization: Bohnemeyer & Swift 2004

– explanandum: telicity-dependent viewpoint aspect interpretation of zero-marked verb forms
  – in German, Inuktut, Russian
  – as opposed to dynamistic-based interpretations in English and Ewe
– explanans: event realization
  – zero-marked forms are used to describe realized events
  – by entailment in Russian
  – and by Gricean stereotype (Q2) implicature in German
  – realization = culmination in Parsons 1990
  – realization depends on the telicity of the event predicate
    – atelic predicates may be instantiated by realized events under imperfective aspect; telic predicates require perfective for realization

Figure 4. Temporal structure of (3.1)
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Analysis (i): the idea in a nutshell

• viewpoint aspect constrains the extent to which the topi c  situation realizes a certain situation type
  – perfective: the topic situation includes a situation of the relevant kind
  – imperfective: the topic situation is included in a situation of the relevant kind

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Data (ii): uses of the subjunctive

• the various contexts of the subjunctive can be sorted into four types
  – Type A: non-factual realization extending a factual topic situation
    • occurs with intensional complements of predicates of fear, desire, attempt; in the ‘motion-cum-purpose’ construction;
    – and with the counterfactual preverbal mood marker dolbik

(5.1) Attempt

| Lε = 5 ‘try’ | u = τ’ | u = η’sh |
| DEF = doctor-D2 | PRIV-A3 = take-CMP (B3SG) | A3 = self |
| u = τ’ | u = η’sh | | |
| [A3 = cure-SUB] (B3SG) | DEF = child-D2 |

‘The doctor tried to cure the child’

Data (ii): uses of the subjunctive (cont.)

– Type A: non-factual realization extending a factual topic situation (cont.)

(5.2) Fear

| Sahak | le = 5 talk:APP-SUB (B3SG) | le = 5 tell-SUB (B3SG) |
| A1SG | DEF = talk | DEF = tell |

‘I am/was/will be afraid to tell the story’

(5.3) Motion-cum-purpose

[Aissen 1987: 16-17; Zavala Maldonado 1993]

| Lε = 5 ‘try’ | h = τ’ | h = τ’ |
| DEF = child-D2 | PRIV-come (B3SG) | DEF = money-D2 |

‘The child, (s)he came to collect/withdraw/take the money’

• a wrinkle: intransitive complements of the same predicates appear in the incomplete
  – w/ the set A (“ergative”) marker deleted – these are nominalizations

Analysis (i): the idea in a nutshell (cont.)

• mood constrains realization of a situation of a given kind inside vs. outside the topic situation
  – realis/indicative: constrains factual realization
    • that is, at-issue realization in a factual topic situation
  – irrealis/subjunctive: constrains non-factual realization
    • Type A: non-factual realization of a situation that extends a factual topic situation
    • Type B: realization in a non-factual topic situation
    • Type C: non-at-issue realization
    • Type D: non-realization during an extended topic time interval

Data (ii): uses of the subjunctive (cont.)
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Data (ii): uses of the subjunctive (cont.)

– Type A: non-factual realization extending a factual topic situation (cont.)

(5.4) Countereall contextual mood óolak ‘almost’

<table>
<thead>
<tr>
<th>óolak</th>
<th>in=mět.t-{∅}</th>
<th>le=nah=∅</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1SG=do:APP-SUBJ(B3SG)</td>
<td>DEF=house=∅</td>
<td></td>
</tr>
</tbody>
</table>

’(I will have/had) almost built the house’

– Type A: non-factual realization extending a factual topic situation (cont.)

• a related use: ‘insubordinate’ (Evans 2007) jussives

(5.5) a. Káa sée+buts=chahak-ech!

SR fast=good-INCH.SUBJ-B2SG

‘Speedy recovery (lit. may you get well quickly)!’

b. Káa imn’=al-eh?

SR A1SG=lock-SUBJ(B3SG)

‘Do you want me to lock it (lit. Do you want that I lock it)?’

– formally these resemble intensional complements of ellipsed matrix predicates
– but their semantics has illocutionary force aspects
  cf. Davin 2006; Porter 1997

– Type B: realization in a non-factual topic situation (cont.)

(5.6) Countereall conditionals

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

Pero wáah káa bëey-lak

but ALT SR like this-INCH.SUBJ(B3SG) A1SG=vote

hi’n=bótart-i-ik Pablo=∅.

ASS:A1SG=vote-APP-INC(B3SG) Pablo=D3

‘But if I were able to vote, I’d vote (for) Pablo.’

– Type B: realization in a non-factual topic situation (cont.)

Future-time reference

Këen ka’súu=nak-ech t=un=łaak’ ha’b’w’ (…),

SR.IRR REP=turn(ATP-SUBJ B3SG) PREP-A3=other year=TOP
täantik in=mět.t-{ik} le=nah=∅,

IRMM A1SG=do:APP-INCl(B3SG) DEF=house=∅2

‘(When) you return here next year, I will have just build the house.’

Habitual/generic reference

Le=këen k=vi’-∅ t=un=ha’m,

DEF=SR.IRR A3PL=put-SUBJ(B3SG) so.then PRSV=∅1

u=k’aab’a=∅, ka’na’l=páach+nah.

A3=NAME=top high+back+house

‘So then the (one) we put here, as for its name, (it is) ka’na’l páach nah’

– Type B: realization in a non-factual topic situation (cont.)

Future-time reference

Chëen ka’súu=nak-ech t=un=łaak’ ha’b’w’ (…),

SR.IRR REP=turn(ATP-SUBJ B3SG) PREP-A3=other year=TOP
täantik in=mět.t-{ik} le=nah=∅,

IRMM A1SG=do:APP-INCl(B3SG) DEF=house=∅2

‘(When) you return here next year, I will have just build the house.’
Subjunctive mood as non-realization viewpoint
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Data (i): uses of the subjunctive (cont.)
– Type C: non-at-issue realization
  • occurs with ‘degree-of-remoteness’ predicates

(5.9) Degrees of remoteness ('metrical tense') markers
Ma’sám súunak le=kóombi=’;…
NEG REC turn(ATP:SUBJ(B3SG)) DET=van=D2
'It's not a while ago that the bus returned;…'

a. …imawa’i-lik’e’, h-ts’o’ik mëdya óora.
   A1SG=say-INC(B3SG)=TOP PRV-end(B3SG) half hour
   ‘…I think it was half an hour ago.’

b. ??…tuméen ma’súunak=’.
   CAUSE NEG turn(ATP:SUBJ(B3SG))=D4
   ‘…because it hasn’t returned yet.’

Data (i): uses of the subjunctive (cont.)
– Type D: non-realization
  during an extended topic time interval

(5.10) a. Negation with perfective aspect
Domìingo-ak-’e ma’ h-hàats’-nak-en=’
Sunday-ak-TOP NEG(B3SG) PRV-beat(ATP:CMP)815G=D4
‘Last Sunday, I did not bat (lit. beat).’

b. Negation with perfect aspect ‘not yet’ interpretation
Tèen’e tak be’óora=’ ma’ hàats’-nak-en=’
me=TOP even now=D1 NEG(B3SG) beat(ATP:SUBJ)815G=D4
‘Me, up to now, I have not yet batted (lit. beaten)’

Data (ii): uses of the subjunctive (cont.)
• comparing subjunctives across languages
  – grammarians assign the label ‘subjunctive’
    primarily based on syntactic distribution
  • a mood that occurs predominantly
    in dependent clauses or verb forms
  – it is not obvious that there is a single semantic prototype
    • shared by all or most of the functional categories that have
      been called ‘subjunctives’ in descriptions across languages
  – however, I argue that there are two semantic notions
    associated with the Yucatec subjunctive
    • which are worth looking into for wider crosslinguistic currency
    – these are the notions
    of non-realization and non-at-issueness
  
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Theory (ii): Possibilistic situation semantics

- basic ingredients (cf. Kratzer 1989: 615-616)
  - a domain $D_p$ of possible situations
  - a mereological relation $\subseteq_s$ among situations defining a partial ordering on $D_p$
  - a subset $D_s$ of $D_p$, the set of possible worlds, defined as mereologically maximal situations

- facts as “worldly particulars”

  \[\text{(6.4) \ Minimal situation in which a proposition is true: A possible situation } s \text{ is a minimal situation in which a proposition } p \text{ is true iff } s \in D_p \land \exists s', s'' \subseteq_s s \land s' \subseteq p.\]

  \[\text{(6.5) Fact exemplifying a proposition: A possible situation } s \text{ is a fact exemplifying a proposition } p \text{ iff } \forall s' \subseteq D_p, (s' \subseteq_s s \land s' \subseteq p) \rightarrow \exists s, s' \subseteq_s s'' \subseteq_s s \text{ and } s'' \text{ is a minimal situation in which } p \text{ is true.}\]

- exemplifying facts are situations that lack “irrelevant details”
- Kratzer shows that this notion is useful in modeling the semantics of know and of counterfactuals

- additions (cont.)
  - the future is non-factual

  \[\text{(6.7) No facts in the future: } \forall s \in D_p, p \in \mathcal{P}(D_p), w_{\text{ref}} \subseteq p \land s \text{ is a fact exemplifying } p \rightarrow s \subseteq w_{\text{ref}}.\]

Theory (ii): Possibilistic situation semantics

- basic ingredients (cont.)
  - a set of propositions defined as the power set $\mathcal{P}(D_p)$
  - propositions may be true in situations, but the logical relations such as entailment and equivalence are defined over worlds

  \[\text{(6.1) Truth: A proposition } p \in \mathcal{P}(D_p) \text{ is true in a situation } s \in D_p \text{ iff } s \in p.\]

  \[\text{(6.2) Entailment: A set of propositions } A \in \mathcal{P}(D_p) \text{ entails a proposition } p \in \mathcal{P}(D_p) \text{ iff } w \in \mathcal{P}(A) \rightarrow w \in p \text{ for any } w \in D_{w}.\]

  \[\text{(6.3) Equivalence: Two propositions } p, q \in \mathcal{P}(D_p) \text{ are equivalent iff } p \subseteq D_p = q \subseteq D_p.\]

- additions
  - a domain $D_t$ of time intervals
  - the temporal trace function $\tau: D_p \rightarrow D_t$
  - which maps situations to their run times
  - a mereological complement/difference relation among situations
    - $s_t \parallel s_d$ denotes those parts of $s_d$ that are not parts of $s_t$
  - situation “grow” into the future

  \[\text{(6.6) No future in this world: } \forall s \in D_p, (\tau(s) < t(s) \rightarrow (s \subseteq w_{\text{ref}}).\]
  \[\text{where } s_{\text{ref}} \text{ is the utterance situation or a reference situation and } w_{\text{ref}} \text{ the utterance world or a reference world.}\]

- translating Klein’s approach into possibilistic situation semantics
  - exploring suggestions in Kratzer 2011
  - suppose the QUD necessarily concerns a topic situation in the sense of Austin 1950

  \[\text{(6.8) At issue status: In context } c \text{ of any discourse, any utterance that is at issue adds a question to the QUD stack or resolves one in it.}\]

  \[\text{(6.9) Topic situation: If } p \in \mathcal{P}(D_p) \text{ is an at-issue proposition in context } c, \text{ then } s_{\text{top}} \in p, \text{ where } s_{\text{top}} \text{ is the topic situation of } c.\]
  \[\text{– the topic time is the run time of the topic situation}\]

  \[\text{(6.10) Topic time in context } c: t_{\text{top}} \subseteq \tau(s_{\text{top}}).\]
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Theory (i): Possibilistic situation semantics

• translating Klein’s approach (cont.)
  • mereological definitions of the aspects
    • perfective: the described event
      is a part of the topic situation
  (6.11) **Perfective:** \[ \{ \text{PRV} \} = \lambda P . \exists s . s \subseteq \_ s \_ \top _ s \land P(s) \]
  • imperfective: the topic situation
    is a proper part of the described event
  (6.12) **Imperfective:** \[ \{ \text{IMPF} \} = \lambda P . \exists s . s \subseteq < s \top \_ s \land P(s) \]

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Analysis (ii): toward a formalization

• completive status
  • the completive status is simply a perfective aspect
  • expressed redundantly in the preverbal and the suffixal slot
  • perfective aspects are inherently realis = realization moods
  (7.1) **Completive status:** \[ \{ \text{CMP} \} = \lambda P . \exists s . s \subseteq \_ s \_ \top _ s \land P(s) \]

• incompletive status
  • incompletive verb forms are aspectually imperfective
  • they entail realization with atelic descriptions only
  and thus do not specify mood
  (7.2) **Incompletive:** \[ \{ \text{NC} \} = \lambda P . \exists s . s \subseteq < s \top \_ s \land P(s) \]

Analysis (ii): toward a formalization

• subjunctive status
  • the subjunctive is an irrealis = non-realization mood
  • it confines realization of the event predicate
    • either to the outside of the event predicate
    • or to a topic situation that is not part of the utterance world
  • in the following, these four uses are treated as involving polysemous senses of the subjunctive
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Comparison to other approaches

- recap: theoretical approaches to mood
  - Roberts 1989; Farkas 1992; Portner 1997
  - relating mood to modality
  - Iatridou 2000; the present proposal
  - relating mood to tense
    - Krifka 2011
Comparison to other approaches (cont.)

• Krifka’s (2011) analysis of mood in Daakie
  – doesn’t carry over to Yucatec because
    • realis/indicative clauses in Yucatec do negate
    • projective complements are subjunctive in Yucatec
      – not realis/indicative, as in Daakie

• Iatridou’s (2000) proposal
  – counterfactual conditionals are asserted over topic worlds that exclude the utterance world

  – the Yucatec evidence
    – Iatridou’s analysis predicts correctly the occurrence of the Yucatec subjunctive in counterfactuals
      • given the semantics of the subjunctive proposed above

      \[(8.1) \textit{Pero wáah kita bëey-lak in=bëotare'},\]
      \[\text{ALT SR like.this-INCH.SUBJ(B3SG) A1SG=vote} \]
      \[\text{‘But if I were able to vote,’} \]
      \[\text{N’in=bëotar-t-iK Pablo=e’}. \]
      \[\text{ASS:A1SG=vote-APP-INCH(B3SG) Pablo=D3} \]
      \[\text{I’d vote (for) Pablo.’} \]

Comparison to other approaches (cont.)

• Iatridou suggests that the element of counterfactuality is not contributed by the subjunctive
  – but by past tense morphology

• in Iatridou’s language sample
  – subjunctives only occur in counterfactual antecedents in languages that distinguish past and non-past subjunctives

• Yucatec counterfactuals contradict Iatridou’s generalization

\[(8.2) \textit{wáah kita bëey-lak in=bëotare'}\]
\[\text{ALT SR like.this-INCH.SUBJ(B3SG) A1SG=vote} \]
\[1. \text{‘if I were able to vote’} \]
\[2. \text{‘if I would have been able to vote’ (constructed)} \]

Comparison to other approaches (cont.)

• an alternative route to counterfactuality?
  – on the analysis sketched here, there may be an alternate typological route to counterfactual meanings
    • not in terms of the tense-like relation between topic world and utterance world, as per Iatridou’s analysis
    • but in terms of the aspect-like relation between topic world and realization

Overview

• mood: the next hurrah/final frontier
• status marking in Yucatec
• uses of the subjunctive
• Klein’s aspect theory
• possible situation semantics
• realization
• analysis
• counterfactuals

• summary

Summary

• main points argued
  – two semantic notions associated with the Yucatec subjunctive
    • non-realization and non-at-issueness
  – possible unified account via the notion of realization
    • formalized here
      in the framework of possibilistic situation semantics
  – the Yucatec subjunctive emerges
    as a kind of inverse perfective aspect
  – on this account, viewpoint aspect and mood capture different relations among the same variable
  – this conceptually similarity may explain why they are expressed in a single morphological paradigm in Mayan
Thank you!