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

- 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

- 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?
• goals: theoretical (cont.)
  – existing accounts
    • Roberts 1989: ‘modal subordination’
    • Farkas 1992: verbs w/ indicative complements describe single worlds; verbs w/ subjunctive complements sets of worlds
    • Portner 1997: mood constrains ‘conversational force’, understood in terms of modal accessibility
    • Iatridou 2000: compositional semantics of counterfactuals
    • Krifka 2011: mood in Daaiki (Oceanic; Vanuatu) as presuppositional tense in branching-future models

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Data (i): the Yucatec status system

• status marking: example
  (2.1) a. Perfective aspect - completive status
    T=meet-ah
    REMF A1SG=do:APP-CMP(B3SG) DEF=house=D2
    ‘I built the house’
  b. Progressive aspect - incompletive status
    Taan in=meet-ik
    PROG A1SG=do:APP-INCR(B3SG) DEF=house=D2
    ‘I am/was/will be building the house’
  c. Remote future - subjunctive status
    Biim in=meet-Ø
    REMF A1SG=do=APP-SUBJ(B3SG) DEF=house=D2
    ‘It is/was/will be a long time before I build the house’

Data (ii): the Yucatec status system

• status marking: allomorphy
  – the status suffixes come in allomorphs that distinguish verb (stem) class and voice

Table 1. The five status subcategories of Yucatec

<table>
<thead>
<tr>
<th>Status category</th>
<th>Subcategories</th>
<th>Verb suffixation classes</th>
<th>Surface verbal projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>perfective aspect</td>
<td>perfective aspect, purpose complements</td>
<td>perfective aspect</td>
</tr>
<tr>
<td>Incompletive</td>
<td>incompletive aspect</td>
<td>incompletive aspect, purpose complements</td>
<td>incompletive aspect</td>
</tr>
<tr>
<td>Subjunctive</td>
<td>subjunctive aspect</td>
<td>subjunctive aspect, conditional antecedents</td>
<td>subjunctive aspect</td>
</tr>
<tr>
<td>Imperative</td>
<td>imperative aspect</td>
<td>imperative aspect</td>
<td>imperative aspect</td>
</tr>
<tr>
<td>Passive</td>
<td>passive</td>
<td>passive</td>
<td>passive</td>
</tr>
</tbody>
</table>

Table 2. Status suffixes and verb stem classes

<table>
<thead>
<tr>
<th>Status suffix</th>
<th>stem class</th>
<th>incomplete</th>
<th>completive</th>
<th>subjunctive</th>
<th>extra-focal</th>
<th>imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>active</td>
<td>-Ø</td>
<td>Ø</td>
<td>ñ</td>
<td>nA</td>
<td>-ah</td>
<td>ø</td>
</tr>
<tr>
<td>passive</td>
<td>-Ø</td>
<td>-Ø</td>
<td>-Ø</td>
<td>-Ø</td>
<td>-Ø</td>
<td>-Ø</td>
</tr>
<tr>
<td>transitive</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
</tr>
<tr>
<td>reflexive</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
<td>-ah</td>
</tr>
</tbody>
</table>
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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
    - Roberts 1996, 2012; Simmons 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

Theory (i): aspect and realization (Cont.)

- realization: Bohnemeyer & Swift 2004
  - explanandum: telicity-dependent viewpoint aspect interpretation of zero-marked verb forms
    - in German, Inuktitut, Russian
    - as opposed to dynamicity-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 ([G] implication 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

Theory (ii): toward a formalization

- temporal structure of (3.1)

Theory (ii): toward a formalization (Cont.)

- hence the imperfective paradox (Dowty 1979: 133)

Theory (ii): toward a formalization (Cont.)

- 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 topic 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

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

• 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
Le=batlo'neb'o', t-h=ts'ak'oh' w-blohl
DEF=doctor=D2 PRV-A3-pak-CMP(B3SG) A3=at
u=ts'ak'-∅
‘The doctor tried to cure the child’

(5.2) Fear
Sa'akan le=tsikbat-∅ le=kwéento'o'
afraid-B1SG [A1SG-talk:APP-SUBJ(B3SG) DEF=take]-D2
‘I am/was/will be afraid to tell the story’

(5.3) Motion-cum-purpose
(Aissen 1987: 16-17; Zavala Maldonado 1993)
Le=paál-o', h-tšal' u=ts'ak'-∅ le=ts'ak'∅
DEF=child=D2 PRV-come(B3SG) A3=take-SUBJ(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 (”negative”) marker deleted – these are nominalizations
Subjunctive mood as non-realization viewpoint aspect in Mayan

Data (i): Uses of the subjunctive (cont.)

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

(5.4) Counterefactual mood ðólak ‘almost’

<table>
<thead>
<tr>
<th>ðólak</th>
<th>ñn=met-∅</th>
</tr>
</thead>
<tbody>
<tr>
<td>le=kaln=∅</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.)

(5.5)

a. Káa séeb+uts-chahak-ech!

SR: fast=good-INC.SUBJ-B2SG

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

b. Káa in=kal_∅

SR: A1SG=lock-SUBJ-(B3SG)

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

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

(5.6) Counterefactual conditionals

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

Pero wáah káa bée-∅

in=bìótare’,

but ALT SR like.this-INC.SUBJ-B3SG A1SG=vote

h’n=bìótar-t-i k Pablore’.

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.)

(5.7) Future-time reference

Kéd’en ka=vìsubak-ech t=x=kal’ ha=∅ (,…),

SR:IRR REP=turn-ATP-SUBJ-B2SG PREP-A3=other year=TOP
tùntik in=nè=ik le=kaln=∅,

IMM A1SG=do:APP-INC(B3SG) DEF=house=O2

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

(5.8) Habitual/generic reference

Lè=kéd’en k=kal’-∅

tùntik ha=∅,

DET=SR:IRR A1PL=put-SUBJ(B3SG) so.then PRSV=D1

u=kàaba=∅, ka’=1SG+paçch=nah.

A3=NAME=TOP high/high+house

‘So then the (one) we get here, as for its name, (it is) ka’=1SG+paçch=nah’

– Type B: realization in a non-factual topic situation (cont.)
Subjunctive mood as non-realization viewpoint
aspect in Mayan

- Type C: non-at-issue realization
  - occurs with ‘degree-of-remoteness’ predicates
(5.9) Degrees of remoteness (‘metrical tense’) markers
Ma’saam suunak le=kóombi’;...
NEG REC turn(ATP:SUBJ(B3SG)) DET=van=I2
‘It’s not a while ago that the bus returned...’
a. ...imawa’i’ike’, h-tz’ó’ik mënya óora.
A1SG=say-InC(B3SG)=TOP PRV-end(B3SG) half hour
‘...I think it was half an hour ago.’
b. ??...tuméen ma’ sùunak=’i’.
CAUSE NEG turn(ATP:SUBJ(B3SG))=D4
‘...because it hasn’t returned yet.’

- Type D: non-realization during an extended topic time interval
(5.10) a. Negation with perfective aspect
Dómmingo-ak’c’ ma’ h-haats’-nak-enni’
Sunday-ak TOP ma’ h-haats’-nak-enni’
‘Last Sunday, I did not bat (lit. beat).’
b. Negation with perfect aspect ‘not yet’ interpretation
Téen’te tak be’ór=ara=’ma’ háats’-nak-enni’
me=TOP even now=D1 NEG(B3SG) beat(ATP:SUBJ-B3SG)=D4
‘Me, up to now, I have not yet batted (lit. beaten)”

- 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

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

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

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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
  - a subset \( D_a \) of \( D_p \), the set of possible worlds, defined as mereologically maximal situations

- facts as “worldly particulars”

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

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

- 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

  \[ (6.6) \text{No facts in the future: } \forall s \subseteq D_p(p \subseteq \gamma(p,w)) \subseteq_p p \land s \text{ is a fact exemplifying } p \rightarrow s \subseteq_{\gamma(p,w)}. \]

Theory (ii): Possibilistic situation semantics

- 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

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

  \[ (6.9) \text{Topic situation: If } p \subseteq \gamma(p,w) \text{ is an at-issue proposition in context } c, \text{ then } s_{\top c,p} \subseteq p, \text{ where } s_{\top c,p} \text{ is the topic situation of } c. \]

  - the topic time is the run time of the topic situation

  \[ (6.10) \text{Topic time in context } c: s_{\top c,p} \subseteq \gamma(s_{\top c,p}). \]
Subjunctive mood as non-realization viewpoint
aspect in Mayan

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:** \( \{PRV\} = \lambda P.\exists s.s \subseteq s_{top} . s \leq P(s) \)
- imperfective: the topic situation is a proper part of the described event

(6.12) **Imperfective:** \( \{IMPR\} = \lambda P.\exists s.s_{top} < s . s \leq P(s) \)

Theory (ii): Possibilistic situation semantics
- realization – the basic idea
  - define realization via facts exemplifying the description
  - restrict the introduction of new facts to facts that are part of the topic situation

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Analysis (ii): toward a formalization
- complete status
  - the complete status is simply a perfective aspect
    - expressed redundantly in the preverbal and the suffixal slot
  - perfective aspects are inherently realis = realization moods

(7.1) **Complete status:** \( \{CMP\} = \lambda P.\exists s.s \subseteq s_{top} . s \leq P(s) \)
- incomplete status
  - incomplete verb forms are aspectually imperfective
    - they entail realization with atelic descriptions only and thus do not specify mood

(7.2) **Incomplete status:** \( \{IN\} = \lambda P.\exists s.s_{top} < s . s \leq P(s) \)

Analysis (i): toward a formalization
- subjunctive status
  - the subjunctive is an irreals = non-realization mood
  - it confines realization of the event predicate
    - either to the outside of the event predicate (Type A, C, D)
    - or to a topic situation that is not part of the utterance world (Type B)
  - in the following, these four uses are treated as involving polysemous senses of the subjunctive
Subjunctive mood as non-realization viewpoint aspect in Mayan

Analysis (ii): toward a formalization

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

(7.3) Fear

Sahak en =tisrabih-Ø

afraid-B1SG [A1SG=aff](APP-SUBJ(B3SG)) DEF=take

(I am/was/will be afraid to tell the story)

Sahak =kwäbutoŋ’

afraid-B1SG DEF=take

(7.3) [7.3] =\lambda x_0, x_0’ \subseteq s_1, s_2 & \forall \theta^* \exists \tau^* \langle x_0 \rangle \rightarrow \text{afraid}(x_0, \theta^*)

\[ \theta^* \rightarrow s_1: \text{w}(w_2, \text{Acc}(x_0, \theta_2)) \]

\[ s_2 \text{ range over possible situations.} \]

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Analysis (ii): toward a formalization

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

Future-time reference

Ch‘ien ka ’sii’unak ehch

t=ulâk’

ha’u=’e’ (…),

SR RR REP=turn=ATP(SUBJ B3SG) PREP=Ab=other year=TOP

t=ulâk’

in=balâk

IMM A1SG=do=APP=INC(B3SG) DEF=house=D2

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

(7.4) [7.4] =\lambda s_0, s_0’ \subseteq s_1, s_2 \& \lambda s_0, s_0’ & \text{w}(w_2, \text{return}(s_0) & \text{be}(s_0)) \& \text{w}(w_2, \text{return}(s_0) & \text{be’}(s_0))

\[ \text{\tau}^* \rightarrow s_1: \text{w}(w_2, \text{Acc}(\theta_2, s_0)) \]

\[ \text{\tau}^* \rightarrow s_2: \text{w}(w_2, \text{return}(s_0) & \text{be’}(s_0)) \]

\[ s_2 \text{ range over possible situations.} \]

Analysis (ii): toward a formalization

Type C: non-at-issue realization (cont.)

Degrees of remoteness (‘me’

Ma’ sáam siunak

NEG REC turn=ATP(SUBJ B3SG) time

‘It’s not a while ago that the bus returned;…’

(7.5) [7.5] =\lambda s_0, s_0’ \subseteq s_1, s_2 \& \text{same} \_ \text{day}(s_0, s_0’) \& \text{\tau}^* < \text{\tau}_{\text{top}}^*

\[ \text{\tau}^* \rightarrow s_0: \text{w}(w_2, \text{return}(s_0) & \text{be}(s_0)) \]

\[ \text{\tau}^* \rightarrow s_1: \text{w}(w_2, \text{be’}(s_0)) \]

\[ s_2 \text{ range over possible situations.} \]

Analysis (ii): toward a formalization

Type D: non-realization during an extended topic time interval (cont.)

Negation with perfect aspect ‘not yet’ interpretation

Tèen’è tak b’e’or=x’ ma’

hàats=’nak-encí

m=TOP even now=01

NEG(B3SG) wa=ATP(SUBJ B3SG)=D4

‘Me, up to now, I have not yet beaten [lit. beaten]’

(7.6) [7.6] =\lambda s_0, s_0’ \subseteq s_1, s_2 \& \text{w}(w_2, \text{beat}(s_0) & \text{be’}(s_0)) \& \text{\tau}^* < \text{\tau}_{\text{top}}^*

\[ \text{\tau}^* \rightarrow s_0: \text{w}(w_2, \text{beat}(s_0) & \text{be’}(s_0)) \]

\[ \text{\tau}^* \rightarrow s_1: \text{w}(w_2, \text{be’}(s_0)) \]

\[ s_2 \text{ range over possible situations.} \]

Comparison to other approaches

- recap: theoretical approaches to mood
  - 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) Pero wáah kídá bëey-lak in-bóotare’,
      but ALT SR like-this-INCH.SUBJ(B3SG) A1SG=vote
      ‘But if I were able to vote,’
    - (8.3) nín-bóotar-t-ik Pablo’e’,
      ASS:A1SG-vote-APP.-INC(B3SG) Pablo=D3
      ‘I’d vote (for) Pablo.’

Comparison to other approaches (cont.)

- except Iatridou suggests that the element of counterfactuality is not contributed by the subjunctive
  - but by past tense morphology
  - subjunctives only occur in counterfactual antecedents in languages that distinguish past and non-past subjunctives
  - Yucatec counterfactuals contradict Iatridou’s generalization

  (8.2) wáah kídá bëey-lak in-bóotare’
    ALT SR like-this-INCH.SUBJ(B3SG) A1SG=vote
    1. ‘if I were able to vote’
    2. ‘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-issuiness
  - 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!